New Lepidoptera collected by Mr. T. A. Barns

	Lat.	Long.						
Ituri River, north bank, halfway between								
Avakubi and Penghe	_							
East Epulu River, north Ituri Valley, between								
Penghe and Irumu								
North Ituri Valley, between Epulu and Duye								
River								
Bafwasende, Lindi River	1° 4 N.	27° 10 E.						
Batama	1° N.	27° 2 E.						
Tshopo Valley, near Batama		_						
North of Batama, between Lindi and Lubila								
Rivers								
Bafwaboli, Tshopo River	0° 36 N.	26° 12 E.						
Maiko Valley, north side, near Stanleyville . — — —								
Stanleyville	0° 30 N.	25° 15 E.						
Lisala, Congo River	2° 8 N.	21° 34 E.						
Congo River, below Lisala	·—							
Kabala, Upper Congo	_							
Kinchasa, Congo River, near Brazzaville		_						
	4° 25 S.	15° 22 E.						
Kasama River								
N. Rhodesia, Chambezi Valley, Karunga River	11° S.	21° 30 E.						

2.-NEW FORMS OF RHOPALOCERA.

By J. J. JOICEY AND G. TALBOT.

PIERIDAE.

1. Mylothris interposita sp. nov. (pl. IX, fig. 1).

This resembles flaviana Gr.-Sm., but the colour is sulphur-yellow, as in sulphurea Auriv., and the apical black of the fore wing is of less extent than in flaviana, but as in sulphurea. It further resembles this form in the spot at vein 3 on the fore wing being free. The spots in the hind wing are as in flaviana.

Habitat.—Bafwasende, April, 1920, one 3.

We have called this a species for convenience. When the *Mylothris* are better known, such forms as *ochracea* Auriv., *flaviana* Gr.-Sm., *sulphurea* Auriv., *citrina* Auriv., *primulina* Butl., and *dimidiata* Auriv., will probably be found to be all forms of one species.

2. Mylothris latimargo sp. nov. (pl. IX, fig. 2, 3, 3 ?).

Allied to *yulei* Butl., and distinguished from this by the narrow apical border on the fore wing, and the reduced yellow basal colouring.

- 3. Upperside as in *yulei* Butl. Apical black narrower, base slightly tinged with yellow. Underside of fore wing has less basal yellow than in *yulei*. Apical area washed with pale buff. Hind wing pale buff.
- ?. Upperside of fore wing with more creamy-white than in *yulei* P but similar markings; the edge of the apical patch is not sharply defined, and is marked with pale yellow stripes between the veins; basal yellow paler. Hind wing with a yellowish tinge.

Underside as in the 3, basal yellow extended.

Length of fore wing: 3 27 mm., 2 28 mm.

Habitat.—Kavirondo, E. Africa, August, 1901. A. H. Neumann, one & (type); Kikura River, Lufira Valley, S.E. Congo. T. A. Barns, one & (allotype); Lumpungu River, Malagarassi Valley, Urindi District, July, 1919. T. A. Barns, one &.

The specimen from the Urindi District is a little different, but may represent a dry-season form. The wings are white on both sides, the apical black is as in some specimens of *yulei*, a little broader than the type and reaching vein 5. The marginal dots of the hind wing are obsolete.

3. Mylothris ruandana, Strand. 9 (pl. IX, fig. 4).

Upperside with broader dark margin to fore wing, the basal half of cell scaled with brown. The hind wing of a deeper yellow than in the male. Underside as in the 3, but fore wing with basal half of cell orange-yellow.

One specimen, also one 3 from Lava Plains, Karissimbi, Kivu, October.

4. Pieris solilucis Butl. f. sabulosa ? forma nov.

Distinguished from other females of this species by its yellow-sandy colour. The apical area of fore wing is broadly black-brown, reaching below vein 3; there is a marginal spot on vein 2 and a smaller one on the submedian. The hind wing has marginal dots on veins 1b, 2, and 3, and an indication of one on vein 4.

Underside not differing in colour from upperside.

Habitat.—Cartouche Village, near Lesse, W. bank of Semliki.

January, 1920, one $\, \circ \, (\text{holotype}) \, ; \, \text{Lesse}, \, \text{Ituri Forest, Semliki River, February, 1920, one } \, \circ \, .$

The second specimen is smaller, with a straighter outer margin to the fore wing, and somewhat resembles forms of the *Pinacopteryx* group.

5. Pinacopteryx vidua 2, f. primulina f. nov.

We assign this form to vidua Butl., because it was taken at the same place as the 3 of that form, and no other form was found in the district.

Upperside primrose-yellow. Fore wing with a faint reddish basal suffusion in one specimen, but well-marked in the other. A faint distal dot in three. A marginal row of blackish dots on the veins, and apex narrowly blackish. Hind wing with faint reddish suffusion in one specimen, and dots at end of veins—these absent in the other specimen.

Underside of fore wing darker at the apex, and with a red basal patch. A small spot in three as above, but no marginal dots. Hind wing darker than above. A curved row of faint blackish dots in 2-6, placed between the cell and the margin.

Length of fore wing: 20 mm.

Habitat.—Lake Tshohoa, Ruanda District, August, 1919, one ? (holotype); Akanjaru River, Ruanda District, August, 1919, one ? . T. A. Barns.

DANAIDAE.

6. Amauris egialea similis subsp. nov. (pl. IX, fig. 5).

This form presents a strong likeness to albimaculata Butl., but has the characters of the egialea group, easily distinguished by the longer and broader band.

3 ? Upperside with fore wing markings as in egialea Crm. The white spots are smaller, the two placed beyond the cell being shorter and more quadrate. Hind wing with pale-brown band not extending beyond apex of cell, extending slightly into celulles 2, 4, 5, 6, forming a costal spot above vein 7, not reaching base of wing, and extended to inner margin. This band is not well-defined distally, in which this agrees with other forms of this group. A submarginal series of three to five brown or whitish spots, which are placed nearer to the margin than in the echeria forms.

Underside similar to the upper. Fore wing with dark brown apical area. Hind wing dark brown.

Abdomen with grey ventral surface as in other egialea forms.

Described from five $3 \ 3$ and $2 \ ? \ ?$.—Rutschuri River, N. Kivu. October, T. A. Barns, one 3 (type); Semliki, two $3 \ 3$; Entebbe, one ?; Butindi, E. Africa, August, one 3, one ? (? allotype); N. Slopes Kilimanjaro, June 14, 1905, one 3.

ACRAEIDAE.

7. Planema macaria hemileuca Jordan. \circ . (pl. X, figs. 12, \circ , 13, \circ).

The ? is distinguished from *macarista* by the narrow black distal area on the hind wing below, the inner edge of the white band being placed more proximal as in *macaria*.

We may remark here that in all Planema we have examined, the claws of the 3 are unequal, and of the 2 equal.

? Similar to macarista and macaria. Fore wing with the band as broad as in macarista, both edges straight from costa to vein 4, but from here to the outer margin the outer edge is strongly dentate; a constriction at the submedian fold. Hind wing with band placed as in macaria.

Underside with the bands as above, but with the apical area of fore wing and distal area of hind wing brown as in *macarista*. The band of the hind wing is sharply defined along both edges.

Habitat.—Ituri Forest, north-eastern outskirts, three days south of Irumu. February, 1920, T. A. Barns, one 3; N. bank, Ituri River, halfway between Avakubi and Penghe, May, 1920, T. A. Barns, one 2 (neallotype).

8. Acraea eltringhami sp. nov. (pl. X, fig. 11).

We take the liberty of naming this interesting species after Dr. H. Eltringham, who has so much advanced our knowledge of this group.

Allied to *insignis* Dist., but easily distinguished by the strongly dentate black marginal border of the hind wing. The claws are unequal as in *insignis*.

3. Upperside of fore wing with the red basal area not reaching end of cell and only extending slightly into the base of cellule 2. Hind wing with black basal area as in *insignis*, but with clean-cut edges, and no spots within. A black distal patch as in *insignis*, almost touching the basal area at vein 3. The black marginal border is strongly dentate.

Underside of fore wing as above. Hind wing with black area as above, thinly scaled with white proximally, pink distally. A dentate marginal border as above, and submarginal red border.

Abdomen black, with two thin ochreous subventral lines.

Length of fore wing: 24 mm.

Habitat.—Kisaba Forest, E. Lake Kivu, Ruanda District. September, 1919, T. A. Barns, 1 $\,\delta$.

9. Acraea bettiana sp. nov. (pl. IX, figs. 6, 7 &, 8 \cdot .)

This species, quite distinct from any known, belongs to the *goetzi* group. We dedicate it to Mrs. T. A. Barns.

J. Upperside of fore wing with black-brown ground-colour. A creamy-white median area of triangular shape, extending from the inner margin to slightly beyond vein 3. The part of this patch lying in cellules 1b and 1c represents the widest part of the area. The patch does not reach the base, its proximal edge lies along the cell, and its distal edge is oblique to the outer margin and is nearly straight. The patch is traversed by the dark veins. A narrow subapical band of the same colour as the central area, lying between veins 4 and 10. A similarly coloured spot in the centre of the cell, more or less rounded but inclined to be pointed basad. A series of short brick-red marginal stripes in 2 to 7, which scarcely touch the margin; a rounded brick-red marginal spot on the fold 1b to 1c.

Hind wing with black-brown ground-colour. The distal area traversed by a creamy-white band from vein 8 to the inner margin. The lower half of this band is of even width and but slightly indented to vein 3, but in cellules 3 to 5 it is produced distally, more so in 4 and 5, and ends narrowly in 6 and 7. This band reaches the cell end but does not fill in the bases of cellules 2 and 5. A marginal series of brick-red triangular spots which are slightly creamy-coloured at their edges; these spots lie in cellules 1c, 2 to 7.

Underside of fore wing as above. The marginal stripes are greatly extended and they reach the pale area and the subapical band. There is some brick-red scaling at the base. Hind wing with a creamy-white band as above, but edged proximally by a thick black line, and also a creamy-white basal band edged distally by a thick black line. The basal band consists of an elongated patch on the inner margin, a narrow stripe in 1b, a spot in 1c, and a large patch in the cell and 7; it bears a rounded black spot in the cell, and there is also a black spot dividing the area in 1a. The basal part of area 1c is black, and above this the

band is edged with black, leaving the base of costa and part of area 9 brick-red. The two bands meet on the inner margin, and the space between them is brick-red traversed by the veins here thickly scaled with black. The submarginal area is brick-red, and traversed along the veins by somewhat ovate and pointed stripes which extend from the outer edge of the band to the margin; these stripes bear each two creamy lines within the margin. The distal margin is edged with ochreous, forming spots between the stripes in 1c, 2 to 7.

Head, thorax and antennae black; palpi ochreous, collar with two reddish tufts. Abdomen black, ventral surface buff, two ventro-lateral buff stripes, and a row of lateral creamy spots. Legs with trochanter and base of femur black, remainder ochreous.

? similar to the male. Fore wing with reduced creamy-white markings, and wider band on the hind wing. Taken separately the latter character is not distinctive. On the underside of the hind wing the space between the two bands is narrower than in the male and bears three smaller and more widely separated brick-red spots.

10. A. bettiana aberr. Kissejensis ab. nov.

One male specimen departs from the type in possessing on the fore wing a black spot in the pale area, placed proximally just above the submedian. On the hind wing the discal band is extended to near the base, the extension being marked here and there with black scaling, and there remains also the black edge of the band at the cell end, and a blackish quadrate costal spot.

As this interesting aberration suggests a mimetic approach to the *cabira* type of *Acraea* we thought a name should be given it.

Length of fore wing: 3 2 21 mm.

Habitat.—Kisaba Forest, Lake Kivu, September (Type & and four others); Lava Plains, Karissimbi, Kivu, October (Type ?) Kisseji River, Lake Kivu, September (f. Kissejensis.)

Described from a series of six 3 3 one ?.

11. Acraea disjuncta forma alciopoides form. nov. (pl. IX, fig. 10).

This form of disjuncta Gr.—Sm. presents a startling likeness to alciope Hew., and occurs in the Ituri District. No typical specimens were taken here.

3. Upperside of both wings pale ochreous. Fore wing with black-brown apical area and narrow distal margin. The distal edge

of ochreous area is straight and oblique from close to costa to vein 5, it projects in cellule 4 and is thence slightly crenulate to the inner margin. The costa, from near base of vein 11, is black-brown to the base, also the discocellulars and a portion of upper part of cell to base, extending to the submedian. The proximal edge of the ochreous area is parallel to the distal edge between veins 12 and 4, from the origin of 4 it is outwardly curved in the cell and downwards to the inner margin between origin of 2 and the base. Hind wing with some black-brown dusting at the base, and a black-brown distal margin 3 mm. broad. The veins and intraneural folds are more heavily scaled with black-brown on the distal margin, and these streaks extend shortly into the ochreous area.

Underside paler than the upper. Fore wing with veins and intraneural streaks in the apical and distal marginal areas. Hind wing with eleven black basal spots, one in nine, one in upper part of cell, two in lower part, one at base of 1c, two beyond it in line, one in 1b, lying between the outer two above, a dot beyond it and below the one above, a spot in 1a below the second one in c, a dot beyond it below the middle one in b. Veins 1a—8 pale brown, and heavy intraneural stripes from near cell to the margin.

Length of fore wing 24 mm.

Described from two specimens from West Semliki River, near Lesse, January, 1920, one &. Ituri Forest, N.W. Beni, January, 1920, one &. Both collected by T. A. Barns. The following specimens, captured by Dr. S. A. Neave, are in the British Museum. Unyoro, Bugomia Forest, 2—4, xii. 3,700 feet, two & &; Toro, Daro or Durro Forest, 4,000—4,500 feet, October, 1911, four & &. All taken in cool and dense forest.

12. Acraea leucopyga latiapicalis subsp. nov. (pl. IX, fig. 9).

This represents most probably the Congo race of the species hitherto known from Rhodesia, Tanganyika Territory, and Uganda.

3. Differs from typical leucopyga Auriv. in the broader black and straight-edged apical area on the fore wing. There is no discal spot in cellule 5 of the hind wing.

The similar-looking *intermedia* Wichgr. is at once distinguished from it by the heavier spotting and the outer submedian spot on the fore wing lying below the one in cellule 2.

Habitat.—Kabala, Upper Congo. June, 1919, one 3,

NYMPHALIDAE.

The genus Ergolis Westw.

The species *enotrea* Cram., is associated with a form which closely resembles it but differs especially in the possession of patches of modified scales on the wings below in the 3.

The species actisanes Hew., which possesses in the 3 a large area on the hind wing covered by modified scales, is associated with a form in which this area is absent.

We have examined the genitalia of the four forms and find two well marked types indicating a great distinction between *enotrea* and *actisanes*, but less distinction between either and the form resembling it in pattern.

One may perhaps consider the probability of the existence of a dimorphic form in connection with both these species, and that a certain dependence of this form on the seasons may have led to further divergence in structure.

At present we have no data to support this view, but we think that interesting results would be obtained from breeding experiments.

We think it is not impossible that species may evolve from closely allied forms in the same locality through the agency of seasonal and sexual dimorphism, and changes in the flight-time of the sexes.

Genitalia.—The Ergolis examined are characterised by the possession of two highly-chitinized symmetrical plates. These plates are disposed bilaterally on the ventral side of the genital apparatus, and we call them the ventral plates. They are connected with the valves by a membrane bearing setae on one side. We call this the connecting setose membrane. Its position is the same in actisanes and albifascia, but differs in enotrea and personata.

The genitalia of *enotrea* and *albifascia* show more resemblance to one another than to either *actisanes* or *personata*, whilst these two latter are similar to one another.

Owing perhaps to a faulty dissection of the insects, a structure represented in the drawing of *enotrea* by a dotted line, and which probably is the chitinous cone at the base of the valves (ring-wall, penis funnel, and juxta of authors), has been missed in the other forms examined. Further investigation will be made in reference to this structure.

13. Ergolis enotrea suffusa subsp. nov.

Specimens of *enotrea* Cram., from the E. Congo and Uganda, may be separated from west-coast forms by the more greyish colour of the fore wing, and much reduced white scaling on both wings.

Entebbe, Uganda, August, 1901, A. H. Neumann, two & & one \(\varphi \); Entebbe, one \(\varphi \); Uganda, B. S. Gledhill, one \(\varphi \); Mabera Forest, Uganda, Jackson, one \(\varphi \); Toro, Uganda, January, one \(\varphi \); Albertville, Congo Belge, June, 1919, one \(\varphi \), one \(\varphi \), one \(\varphi \), T. A. Barns (types); Sabaka River, July, one \(\varphi \); in B. M. from Uganda and Angola.

The Sabaka specimen has much the coloration of a female on both wings.

Genitalia.—(Plate V, figs. 1, 2).

Valves with the posterior and greater part very slightly chitinized. Connecting setose membrane developed anteriorly from the ventral edge, the surface bearing the setae being on the outside.

Ventral plate seen laterally is triangular.

Scaphium broader than in albifascia.

Uncus finger-shaped and nearly straight.

14. Ergolis albifascia sp. nov. (pl. X, figs. 14, 15.)

This species is mixed up in collections with *enotrea* Cram., but may be distinguished by the distinct white postdiscal band on the fore wing, and by the enlarged patches of modified scales at the ends of the veins on both wings below.

3. Upperside coloration and markings similar to enotrea. Forewing with a well-marked grey-white postdiscal band, curved outwards at vein 2 and narrowing anteriorly to vein 7; discal band defined by black edgings, and slightly brownish, outer edge not broken at vein 4, and above this more curved and less oblique than in enotrea. Hind wing with the grey-white area limited by vein 6, outer edge sharply defined. No distinct costal spots in 6 and 7. The second pale postdiscal line in the distal area is much farther from the first than in enotrea, and forms the base of a row of dark brown spots whose rounded inner edges are formed by the first line.

Underside markings as in *enotrea*. The veins are much more heavily striped with blackish-brown modified scales, and these form somewhat ovate patches at the ends of the veins, larger on the hind wing where they almost touch one another. Hind wing with the discal band more constricted in cellule 4 than in *enotrea*, and the

spots of the postdiscal band more separate. The submarginal spots are reduced to narrow triangles, their bases not touching.

? . Very similar to *enotrea*, but distinguished by the white post-discal band, and well defined discal band on the fore wing; hind wing with broader dark postdiscal band, and white area limited by vein 6.

In the Joicey collection from Addah, W. Africa, 3 ?; Accra, one 3; Coomassie, August to September, 1913, one 3 one ?; Sunyani Forest, Coomassie, two 3 3; Cameroons, one 3; N. Bank, Ituri River, halfway between Avakubi and Penghe, May, 1920, one 3, T. A. Barns; Ituri Forest, N. W. Beni, January, 1920, one 3, T. A. Barns; East Epulu Forest, N. Ituri Valley, March, 1920, one 3, T. A. Barns; Cartouche, near Lesse, W. Semliki River, January, 1920, one 3, T. A. Barns; North Side Ituri River, three days west of Irumu, March, 1920, one ?, T. A. Barns; Semliki Valley, Ruwenzori, December, 1919, 1 3 (type); North Lindi Valley, west of Bafwasende, April, 1920, one ? (allotype), T. A. Barns; Senchi, Volta River, one 3; in the B. M. also from Uganda.

Genitalia (pl. V, fig. 3).

Valve similar to *enotrea* but bulbous at the posterior extremity. Connecting setose membrane developed apparently from the median inner surface, the surface bearing the setæ being on the inside.

Ventral plate, and uncus as in enotrea.

Scaphium developed medianly into a long and sharp pointed process.

15. Ergolis personata sp. nov. (pl. X, fig. 16).

It would appear that this peculiar form has been hitherto mistaken for the ? of actisanes Hew. Recognizable by its brown colour, and the absence of the broad costal patch of modified scales found in the allied species.

3 9. Upperside pale ochreous-brown, markings less strongly defined than in *actisanes*. Outer edge of discal band on fore wing with well-marked teeth on veins 4 and 5. Hind wing with the bands continued to the costa.

Underside paler than in actisanes. Fore wing without patch of modified scales and with discal band reaching the submedian. Hind wing with discal band posteriorly closer to the postdiscal band than in actisanes.

The females are not easy to distinguish. To actisanes we assign those with more clearly defined discal bands marked with reddishbrown, discal band on hind wing more even anteriorly, and no spot in 7 of the post-discal band. Females with paler markings, more irregular discal bands, and hind wing with costal spot of the post-discal band present, belong to *personata*. The females of both forms are marked with a white costal spot on fore wings.

Habitat.—Upper Kassai District, P. Landbeck, three 3 3, one 9 (types); Ituri River, two days west of Irumu, March, one 9, T. A. Barns.

E. actisanes Hew., in the Joicey collection from Nigeria, May 21, 1911, one $\mathcal S$; Calabar, two $\mathcal S$ $\mathcal S$; Cameroons, three $\mathcal S$ $\mathcal S$; Bitje, Ja River, Cameroons, dry season, one $\mathcal S$, October, one $\mathcal S$, wet season, one $\mathcal S$; Gaboon, one $\mathcal S$; no loc., $2 \mathcal S \mathcal S$.

Genitalia.

E. actisanes Hew. (pl. V, fig. 4).

Valve elongated for a quarter of its length and produced to a highly-chitinized and pointed hook. About one third of the organ is strongly chitinized, the remainder much less so. Connecting setose membrane developed from the inner median surface of the valve and apparently connected with the non-setose or ventral surface of the ventral plate.

Ventral plate somewhat oblong and large in proportion to the valves.

Uncus strongly flexed ventrally.

Scaphium notched medianly.

E. personata (pl. V, fig. 5).

Valve similar to actisanes. Connecting setose membrane developed as in enotrea, proceeding from the ventral edge and joined to the basal edge of the ventral plate.

Ventral plate similar to actisanes.

Uncus similar to actisanes but more hook-like.

Scaphium more strongly notched than in actisanes.

16. Byblia acheloia crameri Auriv. f. nigrifusa forma nov.

This aberration has the yellow markings on the upperside much reduced and suffused with black.

One ? specimen was taken by Mr. Barns in an open part of the forest on the Lindi River, near Bafwasende, April, 1920.

17. Precis archesia f. obsoleta forma nov.

This form is of frequent occurrence, but does not seem to have received a name. It is distinguished by the absence of red-brown markings above. The place of the band on the fore wing is taken by black scaling, and on the hind wing the spots are edged outwardly with some faint red-brown scaling. The undersurface is similar to the wet-season form *staudingeri* Dew.

Habitat.—With the typical form. In the Joicey collection from Kassula, Malalo River, Rutschugi Valley, Udjiji District, July, 1919, one 3 (type); Kasama River, May, 1917, one 3, T. A. Barns; Bihe District, Angola, two 33; N.W. Rhodesia, May 17, 1904, H. Cookson, one 3.

18. $Hypolimnas salmacis \ \ f. \ ochreata \ form \ nov.$

We propose the name *ochreata* for the females of this species having pale ochreous coloration instead of white.

H. monteironis Druce.

H. monteironis Druce, Cist. Ent. i, p. 286 (Old Calabar and Angola) (1874).

The genital armature of this form agrees with that of salmacis.

19. Aterica galene f. albimacula forma nov.

This form is distinguished by the spots on the fore wing being white, and the patch of the hind wing also white or partly so.

f. extensa Heron.

Trans. Zool. Soc. Lond. xix, p. 153 (Ruwenzori) (1909).

This was described as being a local race, but treated by Aurivillius as an individual aberration (Seitz Macrolep. xiii, p. 191). We agree. This form is in the Joicey collection from the Ruanda and Udjiji Districts, Albertville, Nyasaland and Portuguese Congo. It is transitional to theophane Hopff.

20. Cymothoe theobene $\$ f. umbrina form. nov.

Distinguished by the white areas being dusted over with black-brown. The veins are sometimes scaled with yellow-brown, and one specimen shows a discal patch of yellow-brown on the hind wing.

 two $\$?; Upper Kasai District, two $\$?; Ituri Forest, N.W. Beni, January, 1920, one $\$? (hind wing with yellow-brown); Ituri River, four days W. of Irumu, March, 1920, one $\$?, T. A. Barns.

21. Cymothöe eris Auriv. 9 (pl. XI, fig. 18).

The female described by Aurivillius (Seitz, Macrolep. xiii, p. 151) does not appear to belong to this species. We have three females which agree with the $3\ 3$ in the characteristic underside markings and in the peculiar falcate shape of the fore wing.

Upperside grey-brown. Fore wing with oblique discal line reaching to vein 5 and bounding 5 or 6 white or grey-white spots, the one in 2 being well-marked, the two nearest costa dusted with grey. A postdiscal band of grey-brown crescents somewhat pointed proximally and edged with grey-white on each side and distally more extended in 1a, 1b, and 2. A submarginal grey-brown zigzag line, marked between the veins with black dashes.

Hind wing with discal white or grey-white band about 5 mm. broad, not entering the cell, reaching to the middle of 1c and to the costa, dusted with grey in 6 and 7, and strongly dentate on its outer edge. Discal line faintly visible. A submarginal zigzag blackbrown line marked with black dashes between the veins, and edged proximally with grey-white, leaving a postdiscal strongly dentate line marking the distal edge of the white band.

Underside with pale ochreous basal area and grey-white distal area. The discal line on the hind wing passes close to the origin of veins 3 and 4.

Length of fore wing: 30-34 mm.

This form bears very little resemblance to the \$\gamma\$ of capella Ward, is smaller, and has a markedly falcate fore wing. The more distal position of the discal line on both wings is to be noted. The resemblance to the caenis form euthalioides Kirby is more marked, but the reduced white on the fore wing and the position of the discal line always distinguishes it from this.

P Neallotype from Bafwaboli, Tshopo River, April, 1920, T. A. Barns. Also one P from Kasai River, and one from Upper Kasai District.

Cymothöe herminia Gr.—Sm. 3 9.

C. herminia Grose-Smith, Ann. N.H. (5) 19, p. 63 (1889) (Cameroons) $\mathfrak Z$.

- C. herminia Holland, Bull. Amer. Mus. N.H. xliii, p. 196, pl. viii, fig. 4 (1920) 3 $\,$ 2 .
 - C. johnstoni Butl. P.Z.S. 1, p. 47, pl. 1, fig. 4, 3 (1902) (Toro).
 - C. weymeri Suffert, Iris, 17, p. 119 (1904) (Cameroons) 3.

After a careful study of sixty specimens in the Joicey collection we are forced to conclude that these three forms belong to one variable species, which we are at present unable to separate even into local races.

A series of these three forms shows much variation, and the same applies to the females. A female in the Joicey collection from the Grose-Smith coll. is labelled "Type" and is from the same locality as the 3 type. No description of this specimen was ever published. Dr. Holland, $loc.\ cit.$, has recently described the 3.

Variation in 3:

The black distal area of the fore wing varies in width and may not reach beyond cellule 5. The brown distal band varies in width and the spots in 3 and 4 are sometimes reduced; it also varies in colour from yellow-brown in typical herminia to creamy-white in typical weymeri. Similar variation occurs in the pattern of the hind wing.

The underside may be pale ochreous with lighter discal band and basal spots, dark brown with pale distal margin and whitish basal spots, white basal area and white submarginal markings, or entirely dark ochreous-brown, intermediates occurring between these. Most specimens from Uganda have the basal markings but little lighter than the ground-colour (f. johnstoni).

Variation in ♀:—

The white discal band may be almost a line as in the form described, or it may be 3 mm. broad in cellule 2 of the fore wing with larger spots anteriorly, and correspondingly broad on the hind wing. The length of the fore wing may vary from 36 mm. to 42 mm. The distal yellow band varies in width and the black spots in size; the colour varies from yellow-brown to nearly white, and in one specimen the black spots on both wings are edged with white proximally and without any yellow colour at all.

The underside varies from ochreous to grey-brown and grey-white. The female without yellow markings and with pale underside belongs to the f. *johnstoni* and needs description. The specimen figured by Butl. *loc. cit.* fig. 5, is a form of *lurida* ?.

22. \(\mathbf{1}\) f. *johnstoni* Butl. (pl. X, fig. 17).

Upperside black-brown with white discal band, about 3 mm. broad, on both wings. Black sagittate submarginal spots edged proximally with white on the fore wing, and their points tipped with white on the hind wing.

Underside with basal area grey-brown, distal area grey-white with pale-brown markings.

Type in Joicey coll. from Toro, Uganda, February, 1902.

The following specimens are in the Joicey collection:-

f. herminia.—Mongo ma-Lobah (Cameroons), 3 (type, Grose-Smith), one 3, two \$ \$ (Grose-Smith collection); Cameroons one 3; Aruwimi, one 3 one \$; Semliki, six \$ \$ \$; Toro one \$; Tshopo Valley, near Batama, Congo Belge, April, 1920, one \$, T. A. Barns; Bafwaboli, Tshopo River, April, 1920, T. A. Barns, one \$; between Lindi and Lubila Rivers, N. Batama, April, 1920, T. A. Barns, one \$; Ituri River, four days' west of Irumu, March, 1920, T. A. Barns, one \$; between Penghe and Avakubi, N. bank Ituri River, March, 1920, T. A. Barns, one \$; Ituri Forest, N.W. Beni, January, 1920, T. A. Barns, one \$.

Intermediate form: both wings without a dark margin and with broader yellow distal area. Cameroons, one 3; French Congo, three 33; coll. Powell-Cotton (Congo), three 33; Mhonda, one 3; Ibima River, Ituri Forest, January, 1920, two 33, T. A. Barns; E. Epulu River, N. Ituri Valley, between Penghe and Irumu, March, 1920, one 3, T. A. Barns; Ituri Forest, two days' north-west of Beni, January, 1920, T. A. Barns, one 3; Penghe, N. bank Ituri River, March, 1920, T. A. Barns, two 33.

Noted by Barns as feeding on rotting fruit in thick forest.

f. weymeri.—Cameroons, one 3 (type) (ex. coll. Suffert); Sunyani Forest, Coomassie, Ashanti, 1912, one 3; coll. Powell-Cotton (Congo) three 33; Lesse, Ituri Forest, February, 1920, T. A. Barns, two 33; Cartouche, near Lesse, January, 1920, three 33, T. A. Barns; forest between Epulu and Ituri Rivers, T. A. Barns, one 3; Penghe, N. bank Ituri River, March, 1920, T. A. Barns, one 3; N. side Maiko (or Oiko) Valley, near Stanleyville, May, 1920, T. A. Barns, one 3; Rutshuri River, N. Kivu, November, 1919, T. A. Barns, two 33.

f. johnstoni.—The distal edge of the hind wing band is more dentate.

There is a specimen from the Semliki and one from the Cameroons with this character perhaps not so marked.

Uganda, two 33; Toro, one 3; Toro, February 1902, 39 (9 neallotype); Rutshuri River, N. Kivu, November, 1919, three 33 three 99, T. A. Barns; Mabera Forest, Uganda, 4,000 feet, August, 1919, R. A. Dummer, one 9. The Kivu 99 and the Mabera Forest one show a broader white band, and one Kivu specimen has a brownish tinge over the distal dentate band.

Cymothoe reginae-elizabethae Hall (pl. XI, fig. 19).

We take the opportunity of giving a figure of the underside of this species. Several specimens were taken by Mr. Barns in the Ituri Forest.

23. Euptera semirufa sp. nov. (pl. XI, fig. 27).

As we cannot associate this female with the male of any described form we venture to give it specific rank. It appears to belong to the *elaborats* group.

? Upperside with black-brown ground-colour. Fore wing with reddish-yellow cell-marks outlining a basal oval spot and a central rounded spot. Outside cell a rounded black discocellular spot partly outlined with reddish-yellow. A subbasal reddish-yellow stripe formed of a streak from inner margin to submedian fold, a spot in 1c and a smaller spot in the base of 2. A reddish-yellow submedian patch between inner margin and vein 2, tinged with white anteriorly. An elongate white spot in 2, a smaller one above it in 3, two white streaks in 4 and 5, a small white spot in 6, a thin white streak in 8 near costa, and a white spot below it in 6. A distal series of seven black narrow ovate spots outlined with white. A submarginal white crenulate line, interrupted at the veins.

Hind wing with a reddish-yellow narrow subbasal band, crossing middle of cell from inner margin to vein 6. A broad reddish-yellow band from inner margin to vein 7, extending into end of cell and leaving a narrow outer marginal area of ground-colour. This band narrows anteriorly, and bears near its outer edge a series of rounded black spots of even size; the outer edge of band is strongly crenulate and heavily lined with black, a white spot is placed at the proximal edge of the band in 6.

Underside markings as above and more distinct, the ground-colour and reddish-yellow areas paler. Fore wing with three black cellspots and one below it in 1c; a black discocellular spot invaded by groundcolour. The white spots and stripes joined to the distal ovate spots. Hind wing with a central costal white spot in 7. Subbasal band and proximal area of distal band tinged with white.

Head, thorax and abdomen, black; antennæ black; palpi grey, paler below, legs black and grey; abdomen rubbed, but apparently grey below with lateral rufous spots. The small tufts on thorax and abdomen as in females of other species, are white as in *elabontas*.

Length of fore wing: 26 mm.

Habitat.—North Ituri Valley, between Epulu and Duye Rivers, March, 1920, T. A. Barns, one specimen.

The collector notes that the specimen was taken in a sunny glade in the forest, was a fast flier, and very hard to net. The specimen is worn and the wings damaged.

24. Euptera pluto kinugnana ?, form. rufa, forma. nov.

We have given one name to the brown 2 forms of this species and of *hirundo*, as we see no reason to multiply names where merely a colour form is concerned.

Upperside with markings as in white ? and underside more or less unicolorous ochreous with the markings showing through from above.

The females of *kinugnana* show variation in the size of the bands and spots. This is less evident in the males and does not appear to be racial.

Nyasaland, one ?; "Melanje" (Milanje, Nyasaland), one ?.

- 25. Euptera hirundo lufirensis subsp. nov. (pl. XI, fig. 25 &, 26 \cong).
- 3. Upperside with the creamy bands more extended. Fore wing patch in 1b to 1c quadrate, spot in 2 touching or nearly touching the patch below, streaks in 4 and 5 thicker, spot in 6 larger. Hind wing with a broader and more compact band, its distal edge even, patches in 5 and 6 much larger, vein 5 very thickly blackened in the band. Distal marginal area without pale dots in 4 to 6 and darker than in typical form. Tail more obtuse.

Underside much as in typical form but more rufous-brown, and but slightly marked with white. The inner edge of band on hind wing straighter.

? f. rufa. Upperside with black-brown ground-colour and broad rufous-brown bands. Fore wing with the band more indented on its distal edge, the spots lying within it smaller. Distal margin broader,

Hind wing with outer edge of band strongly dentate and with a series of seven rounded black spots of even size placed within the teeth of the band, the space between each spot and the outer edge being dusted with black.

Underside with markings and coloration of typical form but showing the differences remarked on the upperside.

Described from two 3 3 one 2. Kikura River, Lufira Valley, May, 1919 (types); Panda River, Lufira Valley, May, 1919, one 3.

26. Euptera hirundo Stgr. ? form. rufa, forma. nov.

? type. Schultze, Archiv. f. Naturges. 81 Jahr., Ab. A, p. 139 (1915) (S. E. Cameroons).

The first $\mathfrak P$ to be described of this species is described by Schultze, lc, as being white. We now describe a brown form. The species of this group are rare and the $\mathfrak P$ exceedingly so. It would not be surprising if all the species had dimorphic $\mathfrak P$. E. pluto Ward is known to possess two forms of female, and both are represented in the Joicey collection from Nyasaland.

\$\frac{9}{2}\$. Upperside with black-brown ground-colour and broad rufous-brown bands, which vary in depth of colour. Fore wing with band broad on the inner margin and narrowing beyond vein 3 and ending on vein 7. The proximal edge of band slightly indented between veins 7 and 4, and removed from the cell in this area; the bases of cellules 2 and 3 not filled in by the band. Distal edge of band crenulate and running parallel to the margin, and heavily marked with darker ground-colour. A series of 5 small dark-brown spots lies within the band near the distal edge; the posterior spot is large and heavy and tends to become fused with the submarginal area; spots 3 and 4 are the smaller, and spot 5 lies partly in the dark apical area; there is a spot in 6 just outside the band.

Hind wing with band extending from costa to inner margin and narrower at costa; its proximal edge nearly straight and slightly curved anteriorly, its distal edge evenly curved and marked by a series of large rounded spots of ground-colour; these spots are outwardly faintly outlined by rufous and are separated only by the veins; they decrease in size anteriorly. The outer edge of these spots is heavily marked by darker ground-colour. The submarginal area is broader than on the fore wing.

Underside paler than above, with bands and spots reproduced in

fainter outline. Abdomen black above with dorso-lateral rufous stripes, ventral surface pale brown.

Length of fore wing, 23 mm.

Described from three specimens.—Entebbe, Uganda, August, 1901, A. H. Neuman (type); Entebbe, September, 1900, one specimen; Entebbe, January, 1902, one specimen.

27. Euryphura porphyrion congoensis subsp. nov. (pl. XI, figs, 21, 22, 3 23, 24 ?).

Distinguished from the typical western form by the more falcate wings, especially in the 2, and the reduced black markings. Fore wing with the red-brown inner marginal patch reduced proximally. The hind wing with the distal edge of red-brown area sharply toothed between veins 2 and 5.

Underside of fore wing with paler and more extended apical dusting. Hind wing with no black spot at the base of cellule 6.

Length of fore wing, 3 32 mm., 9 43 mm.

Habitat.—Upper Kasai District, one ♂; Ituri Forest, N. W. Beni, 900 m., January, 1920, T. A. Barns, one ♀.

28. $Euryphura\ plautilla\ \mbox{\circ}$ form. $albimargo\ form.\ nov.\ (pl.\ XI, fig.\ 20).$

This represents the extreme development of the form *albofasciata* Stgr., and is characterized by the whole distal area of the wings being dirty white.

Fore wing upperside with distal half dirty-white, leaving a narrow outer marginal border; space between postcellular mark and discocellular dusted with brown, also base of cellule 3; markings in distal half reduced, especially the submarginal spots. Hind wing with distal half dirty-white, with slight brown dusting along the outer margin. Markings reduced, especially the submarginal and the discal zigzag line.

Underside much paler than in allied form, and markings indistinct. Habitat.—Itoa River, Ituri Forest, January, 1920, one ?.

A specimen in the Joicey collection from the Cameroons is transitional to the above form. It exhibits an increase of white on the fore wing, but is darker on the hind wing.

29. Diestogyna umbrina Auriv. 9 (pl. XII, fig. 28).

We assign this specimen to *umbrina* on account of the basal area of the fore wing below projecting in a tooth on vein 2. The wings are broader than in the allied form.

P. Upperside very similar to simplex Stgr., and feronia Stgr. Band of fore wing tinged with yellow, the spot in 3 placed more distal, the one in 2 narrow. The pale discal line placed more distal between 2 and 3 than in allied forms. A dentate postdiscal line, ochreous edged with blackish-brown, between inner margin and vein 2. Hind wing darker than in the allied forms, postdiscal dark spots larger and submarginal line continuous; this distal band more curved, the space between it and the discal line narrower anteriorly than posteriorly.

Underside more like feronia than simplex but paler than either with increased suffusion of grey. Fore wing with basal area projecting in a tooth on vein 2. Hind wing with discal line enclosing basal area more irregular than in the allied forms. Distal markings distinct, except series of white dots, submarginal line more undulate. A blackish discal patch as in the allied forms.

Length of fore wing, 35 mm.

Habitat.—N. eastern outskirts of Ituri Forest, three days South of Irumu, 1000 m., February, 1920, one ?, T. A. Barns.

Found in dense forest, feeding on rotting fruit.

30. Euryphene laetitioides sp. nov. (pl. XII, fig. 29 ♂, 30 ♀).

Allied to *laetitia* Ploetz, and not easy to distinguish from it. The underside, however, is greenish and without any of the brown tint of *laetitia*.

3. Upperside coloration and markings similar to *laetitia*, and fore wing with no constant difference. Hind wing with black discal band not reaching vein 3, generally stopping at vein 2, and indistinctly defined beyond this in Cameroons specimens. Postdiscal band thinner than in the allied species, and spots in 2 and 3 indistinct; second postdiscal band similar, the spots in 2 and 3 mostly indistinct.

Underside markings similar to *laetitia*. Basal area more sharply defined, greyish-green; distal area dull-green, all markings distinct. Fore wing with basal area paler and more greyish than in hind wing, without white markings; distal area more greenish and discal brown curved line strongly marked. Hind wing with violaceous

suffusion on the basal and inner area and at the apex, submarginal line well marked.

? Upperside similar to the ? of congolensis Capr., but smaller, more brownish, and black spots indistinct. Ground-colour brownishgrey with a greenish tinge. Fore wing with black apex and white subapical band (in one specimen with a yellow tinge) reaching vein 4; between this and the cell black, filling cellule 3 and extending into the distal end of cellule 2. A series of submarginal spots edged with grey-brown. Distal margin black, traversed by an indistinct grey-brown admarginal line.

Hind wing marking as in *congolensis* but discal spots small and indistinct. Underside markings very similar to the 3, the coloration more uniform than in *congolensis*, and distinguished from it by the narrow pale mark in 7 of the hind wing. Ground-colour brownish-grey with markings accentuated by grey-white scaling.

Length of fore wing, ♂ 26 mm., ♀ 30 mm.

Habitat.—Lesse, Ituri Forest, February, 1920, one &; Itoa River, Ituri Forest, January, 1920, two & &, two & & (types); Semliki Forest, E. Semliki Valley, Ruwenzori, December, 1919, one & E. Epulu River, N. Ituri Valley, March, 1920, one &; Ituri Valley, N.W. Beni, January, one &; between Epulu and Duye Rivers, N. Ituri Valley, March, 1920, one &; Lower Butahu River, Semliki Valley, December, 1919, one &, two & &; E. side Semliki River, Ruwenzori, November, 1919, one &; between Epulu (E. side) and Ituri Rivers, March, 1920, one &; Ibima River, Ituri Forest, January, 1920, one &; Bitje, Ja River, Cameroons, early May and June, three & &; June, one &; dry season, no date, two & &.

31. Euryphene brunnescens sp. nov. (pl. XII, fig. 31 &, 32 \color).

Similar to *laetitia* Ploetz, and the form previously described as *laetitioides*, but smaller, brighter in colour, and markings above more as in the latter species, of which it may be only a form.

3. Upperside with tawny-brown ground-colour, spots smaller than in the allied forms. Fore wing markings distinguished by the black postdiscal band forming a sharp tooth at vein 5; in the typical form this band is reduced anteriorly to a thick dentate line to vein 4. Hind wing markings as in *laetitioides* but less developed in the type.

Underside purplish-brown with a faint greenish tinge. Fore wing darker in the anterior distal half, hind wing paler at the apex. Mark-

ings as in *laetitioides* and in one specimen rather indistinct, the wings in this case being washed with bluish-grey.

 \mathfrak{P} . The form here described is placed with the \mathfrak{F} on account of the sharply dentate anterior part of the discal band on the fore wing, and the similarity of pattern on the underside.

Upperside grey-brown, somewhat ochreous in basal area. Fore wing with discal line dentate to vein 3 and edged with white distally from costa to vein 3, this white extending in one specimen to the submarginal line. Hind wing with discal and postdiscal spots slightly white-edged in cellules 4—7.

Underside grey-white with reddish-brown markings.

Length of fore wing: 3 25 mm., 9 32 mm.

Habitat.—Between Epulu and Duye Rivers, N. Ituri Valley, March, 1920, one 3 (type); Itoa River, Ituri Forest, January, 1920, one 3; Penghe, N. bank Ituri River, March, 1920, one 3; Butahu River, under Ruwenzori, S. Semliki Valley, December, 1919, one 3, T. A. Barns; between Epulu (E. side) and Ituri Rivers, March, 1920, one 9 (allotype); between Penghe and Irumu, March, 1920, one 9, T. A. Barns. Semliki Valley, one 3. In B.M. from "Congo Forest, 6, ii, 1907, A. F. R. Wollaston," one 3.

32. Euphaedra ceres f. phosphor form. nov. (pl. XII, fig. 33).

Distinguished by its whitish-green coloration above.

 \mathcal{S} . Upperside with the markings pale-green washed with yellow, darker at the base.

Underside pale green, washed with paler yellow on the hind wing, subapical band white and well defined. Hind wing with indistinct white discal band on the distal half, whitish submarginal area darker than the rest of the wing.

Habitat.—Albertville, June, 1919, three $\, \vec{\sigma} \, \vec{\sigma} \, .$

33. Euphaedra preussi f. obsoleta form. nov.

This curious form indicates a relationship with *inanum* Butl., but the appearance of the upperside shows a stronger affinity to *preussi*. Distinguished by the deep blue colour, extending nearly to vein 2 on the fore wing, and by the green underside without a distinct white costal stripe.

2. Upperside dark blue as in *preussi*, on the fore wing reaching nearly to vein 3. Subapical band white and sharply defined. Hind wing without distinct submarginal spots.

Underside bluish-green with brownish reflections in a side light. Fore wing with three black cellspots and the subapical band well defined. Hind wing with a short white stripe in 7, merging into the ground-colour; three indistinct white discal spots; series of submarginal indistinct spots a little darker than the ground-colour.

Habitat.—Itoa River, Ituri Forest, January, 1920, 1 2.

A specimen of preussi \circ approaches the above form in the development of a greenish tint on the underside.

34. Euphaedra lupercoides Roths. ?.

Upperside similar to the 3. Fore wing band narrower than in luperca Hew., and white apical spot a little smaller.

Underside similar to the 3. Inner margin of fore wing, and parts of the distal areas of both wings, cinnamon-brown.

Habitat.—Between Lindi and Lubila Rivers, north of Batama, April, 1920, 1 ♀.

35. Euphaedra eleus ? f. coerulea form. nov.

This striking form is very similar to *preussi* Stgr., but distinguished by the cell of the fore wing being entirely blue, the hind wing with a row of distinct submarginal spots and some brown distal scaling. It represents a further development of the form *semiprussiana* Wichg.

2. Upperside with black ground-colour. Fore wing with blue basal half, filling the cell and basal part of cellule 3. Cell with two black spots. Subapical band white and clearly defined, composed of four spots. Hind wing blue, paler distally, with some brown scaling in the distal part of cellules 4—7. A black submarginal border of nearly even width, bearing a series of violet-blue submarginal spots.

Underside dark ochreous-brown, paler at the margins. Fore wing with three black cellspots and a black discocellular spot. Hind wing with a black cellspot, two whitish streaks in 3 and 4, and small palebrown submarginal spots.

Habitat.—Ituri Forest, thirty miles south of Irumu, February, 1920, one ?, T. A. Barns.

36. Euphaedra eleus nigrobasalis, subsp. nov. (pl. XII, fig. 34 \mathfrak{F} ; XIII, 35 \mathfrak{P}).

Distinguished from *eleus orientalis* Roths. by the costa and upper part of cell being black to the base, leaving only a narrow stripe of red-

brown along lower margin of cell, by the red-brown area only reaching origin of vein 3, by the narrow white subcostal stripe on hind wing below, and the absence of the submarginal row of spots. The distal margin of hind wing above is of more even width and not wider on the anal area; and the spots in it are blue without white tinge.

Habitat.—Panda River, Lufira Valley, S.E. Congo, May 12, 1919, one ♂ two ♀ ♀, T. A. Barns.

37. Charaxes imperialis albipuncta subsp. nov.

Distinguished chiefly by the larger band on the hind wing of the \Im , and the white-spotted \Im .

3. Upperside of fore wing not constantly different from typical form. Hind wing with a broader band in most specimens. The inner spot in cellule 7 is blue or only slightly white.

Underside of fore wing with the yellow proximal border to the black submedian spot edged with blue, and this again with black proximally. Hind wing with the postdiscal bar in cellule 7 either without white distal scaling or with only a trace of it.

9. Upperside of fore wing with the spots white and smaller than in typical form. The black inner marginal band is reduced anteriorly and does not reach vein 2. Hind wing with the band not reaching vein 7. The outer spot in cellule 7 smaller and without any brown tinge. Submarginal and admarginal spots white.

Underside as in the 3. Fore wing with spots as above. No spot bordering the submedian bar. Hind wing with postdiscal spots further from the discal bars than in typical form.

In the Joicey collection from: Bitje, Ja River, Cameroons, 2,000 ft., dry season, $1\ 3$, early May and June, wet season, $1\ 3$ (allotype); Bitje, Cameroons, $1\ 3$; Bipindi, Cameroons, $1\ 3$; Cameroons, $2\ 3$; Upper Kasai District, Congo Belge, $3\ 3$; N. bank, Ituri River, halfway between Avakubi and Penghe, March, 1920, T. A. Barns, $1\ 3$.

The specimen obtained by Mr. Barns was taken on dung.

The 3 holotype is from Bitje, Ja River, Cameroons, September 7, 1919, G. L. Bates, and is in the collection of Madame de Horrack Fournier, 90, Boulevard Malesherbes, Paris. There is also $1\ 3$ from the East Congo in this collection.

38. Charaxes zelica depuncta subsp. nov.

Distinguished from the typical form by the absence of the blue marginal dots on the hind wing. The inner edge of the distal area of the underside is less curved on the fore wing and almost straight on the hind wing. In cellules 1b and c of the fore wing is a pale ochreous patch distal to the postdiscal line, and generally a similar patch proximal to the discal line. The submarginal line on the fore wing ends at the apex; in the typical form it ends at vein 8.

Habitat.—Uganda, Mabira Forest, January 29, 1912, 1 & (type); W. Uganda, Budonga Forest, April 6 to May 16, 1912, 2 & &, Captain J. Fraser; Mabira Forest, 4,000 feet, R. A. Dummer, 1 &; Kasai District, Congo, 1 &; Singa, French Congo, 1 &; Cameroons, 1 &; Bitje, Ja River, Cameroons, 2,000 feet, dry season, 1 &.

Also typical form in Joicey collection, Coomassie, Sierra Leone, 1 3.

Charaxes eupale Drury, dilutus Roths. and subornatus Schultze.

The forms of *Charaxes* comprised under the above names present an interesting group. All are similarly coloured and exhibit similar and variable markings. Our knowledge of the distribution of these forms is now well advanced, and series of all are contained in the Hill Museum. We have therefore attempted to analyse the group with a view to ascertaining how many definite forms exist, and whether such forms could be grouped together under one or more distinct species.

Sixteen dissections of the genitalia were made and drawings prepared by Mr. Birbel. When these were compared with the insects the results were found to be unsatisfactory. It was at once apparent that much variation existed in the genital armature, and these variations were not in agreement with the differences observed in the wing-markings.

The dissections, drawings, and insects were submitted to Dr. Jordan for an opinion. He very carefully examined them, together with further specimens in the Tring Museum, and reported that no reliable distinction could be obtained from the genitalia. He thought that probably three species could be made out on other grounds. These results confirmed our own, with a slight difference in the grouping of the three species.

We believe that the three species may be grouped as follows:—

eupale ... | eupale eupale.—Sierra Leone to the Niger. | eupale subsp.—Cameroons to Uganda.

dilutus ... dilutus dilutus.—Angola to Nyasaland, northward to Ruwenzori, Nairobi District and Zanzibar.

 $subornatus \dots \begin{cases} subornatus \ subornatus . - \text{Cameroons to Congo.} \\ subornatus \ \text{subsp.} - \text{Ituri Forest to Uganda and Nairobi.} \end{cases}$

It will be seen that the *eupale* subsp. and *dilutus* overlap in distribution but we have no evidence of both occurring in the same place.

- C. eupale subsp. is found together with subornatus in the Cameroons, and if our diagnosis is correct it also occurs with a race of subornatus in Uganda and the Ituri.
- C. dilutus is not known farther west than Angola, but occurs together with a subornatus form at Nairobi.

The three species may generally be easily distinguished, but the *subornatus* race may be confounded with *dilutus*. It will therefore be useful to give here the results of certain measurements which indicate not only the three species but also the races and to which species they belong.

On the underside of the hind wing there is a row of antemarginal spots and a row of what may be termed submarginal spots. The arrangement of these series of spots is not the same in each species, and a comparison of typical subornatus with eupale subsp. will show that the antemarginal spots are nearer the margin in subornatus than they are in eupale, and that the spots of the submarginal series occupy different positions in the two species, especially the spot in cellule 3. The submarginal spot in cellule 6 is more or less removed from the band, owing to the straighter or more oblique position of the band. Measurements were made (1) of the distance between the antemarginal dot in cellule 3, measured from the centre of the black dot, and the outer edge of the submarginal dot in 3; (2) of the distance between the submarginal dot in cellule 6 and the inner edge of the band.

These measurements were made on specimens which showed the markings plainly. It sometimes happens that specimens occur with the spots absent. The following specimens were taken:—

	0 1			
C. eupale eupale	• • •	•••	• • •	10
C. eupale subsp.	•••	•••	•••	52
C. dilutus	•••	• • •	• • •	25
C. subornatus		• • •		4
C. subornatus sul	osp			9

The results are tabulated on next page.

1. The measurement in cellule 3:—

eupale, fifty-two specimens have a distance of from 2 to 2.5 mm.

subornatus, nine individuals have a distance of from 2.0 to 2.5 mm.

dilutus, nineteen individuals have a distance of from 3.0 to 3.5 mm.

Whilst subornatus agrees with eupale, in dilutus the distance is greater between the two points.

2. The measurement in cellule 6:—

eupale, forty-one individuals have a distance of from 3.5 to 4 mm.

subornatus, nine individuals have a distance of from 5.5 to 6 mm.

dilutus, sixteen individuals have a distance of from 4.0 to 5.0 mm.

TABLE.

Distance between the antemarginal dot in 3, measured from the centre of the black dot to the outer edge of the submarginal dot in 3. Distance between the submarginal dot in 6 to the inner edge of the band.

marginar do	t III 5.								
Form		Distance in mm.	No. of specimens		Distance in mm.		No. of specimens	Total No. of specimens examined	
eupale eupale		2.0		1	_	3.0		5)
		2.5		9		3.5		4	10
						4.0		1)
eupale subsp.		1.5		3		2.5		1	\
		2.0		26		3.0		8	
		2.5		16	_	3.5		25	5 2
		3.0	• • •	5		4.0		11	02
		3.5		1		4.5	• • •	5.	
		4.0		1	—	5.0	• • •	2)
dilutus		2.5		2	_	3.5		4	\
		3.0		10		4.0		6)
		3.5		9	—	4.5		5	2
		$4 \cdot 0$		1		5.0	• • •	5	
		4.5		2		5.5	• • •	4	
		5.0		1	_	6.0		1)
subornatus		1.5		4		6.0		1) 4
						6.5	• • •	3	} 4
subornatus sul	osp.	2.0		4		5.0		1)
	_	2.5		5		5.5		3	9
						6.0		5)

This measurement gives three different results.

Although it may be argued that the material measured is too small, the differences observed are correlated with the other more recognised differences.

The form we have placed as a race of *subornatus* was not easy to separate from *dilutus*, but the measurements taken do not bring it in the *dilutus* series. We give the points of differentiation in our description of the race.

We regret that more specimens of these forms were not available, but if we take the tendency shown by these together with the general coloration and pattern, the probability is that our division and subdivision is correct.

The times of appearance, according to data preserved on specimens in the Joicey and other collections, are as follows:—

C. eupale eupale ... No data.

C. eupale subsp.
C. dilutus
December and April.
C. subornatus
December.
April to December.
C. subornatus subsp.
January to April.

It does not appear that we have to deal with any seasonal forms. Genitalia.—(Plate VI.)

The most obvious differences to be noticed in the series examined occur in the uncus, in the juxta, and in the valves.

The extreme forms of uncus are seen in *subornatus* (fig. 5a), and in *subornatus* subsp. (fig. 6), but all intermediate forms were found.

The juxta (also known as ring-wall and penis-funnel) exhibits its extreme forms in *eupale eupale* (fig. 1a), *dilutus* (fig. 3a), and *subornatus* subornatus (fig. 5b).

A setose membrane connects the lateral edges of the juxta with the inner surface of the valves. This membrane, near its attachment to the juxta, develops into a slightly chitinized process, also covered with setae, and this process exhibits small variations, especially in its proportions as compared with the rest of the organs.

Finally the valve exhibits two different formations of the dorsal edge as shown in *eupale* (fig. 1) and in *subornatus subornatus* (fig. 5).

For other details see explanations facing plate.

The following specimens were examined:—

C. eupale eupale ... Sierra Leone, 2.

C. eupale subsp. ... Cameroons, 1; Uganda, 1.

C. dilutus ... Nyasaland, 6; South-East Congo, 1; Nairobi, 1.

C. subornatus ... Cameroons, 1; Congo, 1.

C. subornatus subsp. Uganda, 1; Nairobi, 1.

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The forms from which drawings of genitalia were made are figured on plate VII.

It may be possible to make a further study of the genitalia when many more specimens of the rarer forms become available.

39. Charaxes eupale latimargo subsp. nov.

Distinguished from the West Coast eupale, by the larger basal area on the fore wing and the narrow marginal brown on the hind wing.

3 9. Upperside of fore wing with pale basal area extended and nearer the tornus than in the type form. Hind wing with marginal brown not extended beyond the line of submarginal spots.

Underside of hind wing with the submarginal dot in cellule 3 farther from the antemarginal dot than in the type form. In cellule 6 the distance between the submarginal spot and the inner edge of the band is slightly more than in the type form.

In the Joicey collection from Cameroons, Bitje, Ja River, 2,000 feet, dry season, four 3 3 one 9; wet season, one 3 one 9 (9 allotype); early May and June, wet season, four & &; Bitje, one &; Cameroons, one ?; Bipindi, Cameroons, September, two & &, October, four & &; Bipindi, three & &; Kibokolo do Zombo, Portuguese Congo, one &; Luluabourg, Kasai District, two & &; Kunzulu, le Moyen, Congo Belge, dry season, one 3; Aruwimi, one 3; Upper Congo, one 3; Upper Kasai District, three & &; Longgi, two & &; Semliki, one &; North bank of Ituri River, half-way between Avakubi and Penghe, May, 1920, six & & ; coll. T. A. Barns (type); Itoa River, Ituri Forest, January, one &, T. A. Barns; Uganda, coll. Jackson, four & &; Entebbe, August, 1901, A. H. Neumann, four & &; Entebbe, January, 1902, one 3; Entebbe, one 3; Uganda, one 3; Toro, January, two & &; Nyanza, two & &; Mabira Forest, Uganda, April-August. 1919, two 3 3.

40. Charaxes subornatus minor subsp. nov. (pl. VII, fig. 6).

Distinguished by its smaller size and the less strongly-marked underside.

3. Upperside of fore wing as in type form, and differentiated from dilutus by the even and more regularly toothed edge of the basal area. Hind wing with the bluish costal shade not extended below vein 7.

Underside paler green, discal band less defined and not so white. Hind wing with the submarginal dot in cellule 3 farther from the antemarginal dot than in the type form, but nearer than in *dilutus*. Discal line straighter than in *dilutus*.

C. subornatus is further distinguished below by the fore wing with cell patch extending into cellule 2, and by a pair of black submarginal dots near the termen.

Length of fore wing: 31 mm. Breadth from apex to tornus: 32 mm.

Type form. Length of fore wing: 32 mm. Breadth: 25 mm.

In the Joicey collection from Nairobi, three & &; Mabira Forest, Uganda, April-August, 1919, three & & (type); Ituri Forest, N.W. Beni, January, 1920, T. A. Barns, one &; E. Epulu, N. Ituri Valley, between Penghe and Irumu, March, 1920, one &, T. A. Barns.

In the collection of Mdme. de Horrack-Fournier,—Mabira Forest, Uganda, sixteen & &.

C. subornatus Schultze, is in the Joicey collection from Bitje, Ja River, Cameroons, April, two \mathcal{S} \mathcal{S} ; early May and June, wet season, one \mathcal{S} ; Upper Kasai District, Congo, one \mathcal{S} ; French Congo, one \mathcal{S} .

In the Congo Museum, Tervueren,—Bili à Lebe, Congo, November-December, 1912, one $\mathcal Z$; Bilinyama-Tale, Congo, April 12-20, 1911, one $\mathcal Z$.

41. Euxanthe crossleyi intermedia subsp. nov. (pl. XIII, figs. 36, 37).

This form resembles the typical one in the large patches of the fore wing and the extended discal patches of the hind wing. It resembles ansorgei R. and J., in the well-developed postcellular patch of the hind wing, which, however, is not produced to a point as in the two allied forms, and in two stripes filling cellules 1a and 1b. The admarginal white spots of the hind wing are larger than in any specimens we have seen from the Cameroons, Kasai, and Uganda.

Habitat.—Itoa River, Ituri Forest, 1,000 m., January, 1920, 1 & (type); Ibima River, Ituri Forest, January, 1920, 1 &.

These two specimens are identical.

Mr. Barns notes that this species flies high, and is fond of resting on dry twigs high up, or occasionally on the bark of a tree. Found in glades in thick forest, feeding on tree gums. The habit of the species is similar to that of the Liptenines and it was on this account not associated with *Charaxes* by Mr. Barns.

SATYRIDAE.

42. Mycalesis asochis congoensis subsp. nov.

Distinguished by the extended white areas on both wings, and the less deeply curved dark distal line below.

3. Upperside of fore wing with the white area more extended in the cell. Hind wing with the white area more extended between veins 1a and 4.

Underside without any basal yellowish suffusion. The dark brown border to the ocelli is straighter than in the typical form. The spot in cellule 3 on the hind wing is more strongly developed.

Habitat.—Between Lindi and Lubila Rivers, north of Batama, April, 1920, one 3 (type); north side of Maiko Valley, near Stanleyville, May, 1920, one 3; Tshopo Valley, near Batama, April, 1920, one 3, T. A. Barns; Kassai River, one 3.

Found in dense forest and infrequent.

43. Mycalesis persimilis sp. nov. (pl. XIII, figs. 38, 39 ♂, 40 ♀).

Allied to martius F., but larger and with broader distal area below.

3. Upperside black with bluish reflection in side-light. Fore wing with short hair covering cell and basal part of cellules 1a, 1b, 2 and 3, but not forming tufts as in *martius*. Hind wing with a grey hair-pencil at base of cell, and a black hair-pencil at base of cellule 6. Basal area and inner margin covered with short hair, longer in the cell, and projecting beyond it.

Underside black-brown, distal area paler and broader than in martius. The line marking outer edge of basal area straighter than in martius. Fore wing with eye-spot in 2 scarcely larger than in martius, four small ocelli in 3—6, the one in 5 larger and the others more punctiform. The glossy area not extended beyond line limiting basal dark area. Hind wing with five ocelli, the one in 2 smaller than in martius, the one in 1c a little smaller, the others smaller still, those in 3 and 4 being punctiform. The area surrounding the ocelli on both wings is only slightly paler than the ground-colour.

 \mathfrak{P} . Resembles martius, but is larger and subapical band is broader and more distinctly defined. Underside resembles the male. The margin and apical area of the fore wing is more yellowish than in martius. The outer edge of basal area on hind wing slightly undulate and sharply defined.

Length of fore wing: 3 23-26 mm., \$ 26 mm.

Habitat.—Ruwenzori, western slopes, December, 1919, 2,200 m., two & &, one & (types); Upper Butahu River, Ruwenzori, 1500-1800 m., December, 1919, two & &, T. A. Barns.

ERYCINIDAE.

44. Abisara barnsi sp. nov. (pl. XIII, figs. 41, 42).

Allied to talantus Auriv., having the same neuration-structure in the hind wing

§. Upperside coloration as in other species of the group. Fore wing without apical ocellus; a discal blue band, somewhat triangular, anteriorly narrowed, reaching from inner margin to origin of vein 6, indistinct in the lower angle of cell, inner edge reaching slightly beyond origin of vein 2, outer edge even. A pale postdiscal narrow band from costa to near tornus. Hind wing with a narrow blue transverse band from 2 to 7 near apex where it narrows to a point; this band fills lower angle of cell and the base of cellules 3 and 4. A double apical eye-spot as in allied forms. Two faint bluish submarginal lines between veins 2 and 4, joined to form a kidney-shaped spot.

Underside paler. Fore wing with whitish oblique discal line from costa to vein 2. A similar postdiscal line from costa to inner margin, curved below vein 2. A thinner submarginal line from vein 7 to a point between 2 and 3 where it joins the postdiscal line. Hind wing with a slightly curved whitish discal line from middle of inner margin to costa before the apex. Two crenulate submarginal lines between veins 1b and 4, joined posteriorly. Eye-spots as above.

Length of fore wing: 20 mm.

Habitat.—Butahu River, Semliki Valley, December, 1919, 1,000 m., one $\, \Im \,$.

Mr. Barns notes that this species has the habit of A. rogersi in hopping, rather than flying, from leaf to leaf, and is easily caught. Feeds on plant-juices. Rests with wings closed and is not easy to see.

LYCAENIDAE.

45. Telipna angustifascia sp. nov. (pl. XIV, fig. 43).

This species is allied to *semirufa* S. and K. with which it has been confounded hitherto. *Semirufa* is probably only a form of *bimacula* Ploetz. Distinguished by the narrow oblique band of the fore wing.

3. Upperside of fore wing with orange-red discal band, 3 mm.

to 6 mm. broad on vein 2, and 7 mm. broad at most on the inner margin; this band narrows anteriorly and reaches vein 4 or before it, and does not extend to the base of cellules 2 and 3. A small ochreous spot, which may be absent, is placed in 4 and 5 in a subapical position. Hind wing with band as in *semirufa*, but sometimes narrower.

Underside markings much as in *semirufa*. Fore wing with broader black outer margin above vein 3 and ochreous marginal spots. Black costal stripes heavier and continued to lower edge of cell. A black discal spot in 3 placed free in the centre of band. Hind wing with heavier black costal markings than in *semirufa*. A black spot at the base of cellule 1c. The distal edge of the band is less strongly dentate than in the allied forms, and does not project so far in cellule 4, the wider black area in this region bearing a fifth small ochreous spot. There are only four submarginal spots in the allied forms.

 $\mathfrak P$. Upperside with paler markings. Fore wing with slightly broader discal band than in $\mathfrak F$, especially so the spot in 3. Subapical spot larger, or forming a patch extending to vein 10. Hind wing with paler band, narrower than in $\mathfrak F$, not reaching the base and somewhat broken costally; outer edge of band extending from inner margin to vein 7.

Underside as in the 3.

Fringes black in 3, in 2 with white dots between veins.

Length of fore wing, ♂ 21-25 mm., ♀ 20-23 mm.

Habitat.—Dense forest near Bafwaboli, N. side Tshopo Valley, T. A. Barns, one 3 (type); Upper Kasai District, Congo Belge, P. Landbeck, two 9 9 (9 allotype); Bitje Ja River, Cameroons, 2,000 feet, October-November, 1912, G. L. Bates, one 9; S.W. of Upper Kasai District, P. Landbeck, one 3; two 33, loc.?, ex. coll. Suffert.

In the British Museum from Uganda, Budongo Forest, Unyoro, 3,400 feet, December, 1911, S. A. Neave, one 3, two 3, Entebbe, January, 1912, S. A. Neave, one 3; Mabira Forest, Chigwe, 3,500-3,800 feet, July, S. A. Neave, one 3, one 3.

46. Telipna subhyalina sp. nov. (pl. XIV, fig. 48).

Allied to *carnuta* Hew., but distinguished by the thinly-scaled fore wing, reduced ochreous basal area and narrower dark margin on the hind wing.

?. Fore wing with very thinly scaled discal area. Upperside with black ground-colour and distinct black discocellular spot. Basal area

pale orange, forming a triangular area reaching from upper margin of cell to near the tornus, and extending into the base of cellule 2. Hind wing pale orange with black marginal border, narrower than in *carnuta*, from costa to cellule 3.

Underside paler than in *carnuta* but with similar markings. Fore wing with distal area thinly scaled with grey-white, which forms a curved band between veins 6 and 2; a grey-white submarginal line followed by an ochreous-yellow fine marginal line. Hind wing with grey-white submarginal line more strongly marked than in *carnuta*.

Length of fore wing 14 mm.

Habitat.—N. Ituri Valley, E. of Epula River between Penghe and Irumu, March, 1920, one ♀ (type); Penghe, N. bank Ituri River, March, 1920, one ♀.

47. Telipna plagiata sp. nov. (pl. XIV, figs. 44, 45).

Perhaps more nearly allied to bimacula Ploetz, but resembling nyanza Neave above in the extent of the orange colour.

♀. Upperside of fore wing with pale orange area extending from base, to outer angle and beyond the cell to a distance less than half the width between end of cell and outer margin, and reaching anteriorly to base of 12, basal third of 11, basal half of 10, and base of 6, leaving a narrow black costal margin and a broad black distal area which narrows posteriorly to the submedian. A white subapical band of three spots in 4—6, touching, or almost touching, the orange area. Hind wing pale orange with black distal margin, 3 mm. broad, narrowing posteriorly.

Underside pale yellowish-orange. Markings similar to bimacula. Fore wing with black markings less developed than in bimacula, the outer costal bar only reaching vein 5 with a small spot in cellule 4. Outer margin without any black border, but with small black marginal spots on the veins and the spaces between these spots white. Hind wing with thinner costal stripes than in bimacula, and with large white distal spots.

Fringes black, with small white spots between the veins.

Length of fore wing: 28 mm. Larger than the majority of 28 mm in the genus.

Habitat.—Lower Butahu River, Semliki Valley, December, 1919, one ? (type); Itoa River, Ituri Forest, January, 1920, one ?.

Mr. Barns notes that this form is "slow of flight like an Acraea."

48. Telipna hollandi sp. nov. (pl. XIV, figs. 46, 47).

Allied to *medjensis* Holl., Bull. Amer. Mus. Nat. Hist., vol. xliii, p. 214, pl. xii, fig. 8 (1920) (Congo). Distinguished by the broader dark margins and the more marked undersurface.

3 ?. Upperside very similar to sanguinea Ploetz. Fore wing with orange area of same extent as in sanguinea, and subapical spots as large as in the ? of this species. Hind wing with marginal border narrower than in sanguinea, especially anteriorly. 3 with or without, ? with, white marginal spots, but smaller than in sanguinea. Cilia more or less chequered with white as in medjensis.

Underside with similar markings to medjensis. Fore wing with white subapical patch also edged with black outwardly, a black discocellular bar, and short costal bars in the cell. Hind wing with white area sharply defined and extended above vein 4 to the level of the fifth costal bar or beyond it. Black marginal border broader than in medjensis; white marginal spots oblong as in this species.

Length of fore wing: 3 23 mm., 2 26 mm.

Habitat.—Ituri Forest, N. W. Beni, January, 1920, T. A. Barns, one \mathcal{F} (type); Upper Kassai District, P. Landbeck, one \mathcal{F} (allotype), and three \mathcal{F} \mathcal{F} .

49. Pseuderesia neavei sp. nov. (plate XIV, figs. 49, 50).

Distinguished from any other described species by the steely-blue upper surface. Dedicated to Dr. S. A. Neave, who first took this species.

3. Upperside steely-blue with an admixture of green, and black-brown stripes between the veins. Fore wing with apical area black-brown, shading into the blue.

Underside of fore wing with grey-black ground-colour, distal area orange from origin of vein 6 to 2, narrowing posteriorly; costa and a stripe along upper margin of cell orange broken by ground-colour, forming a dark middle costal spot from which proceeds a dark costal line broadening out at the apex and becoming submarginal and thinner to vein 4; this line and the dark costal marks are dusted with white.

Hind wing brick-red with mouse-grey markings. An indistinct costal spot in cellule 8, a larger one with a black centre below it in 7, and a larger distal spot edged outwardly with black, and touching veins 8 and 7, a small one at base of 7, a discocellular spot with a black centre between veins 4 and 6, a middle cell spot, not touching upper margin, joined to one with a black centre between base of 2 and the submedian a series of 7 distal spots, one on inner margin, the second,

third and fourth nearly in line in cellules 1b—1c, 2 and 3, the fifth more distal in 4, the sixth and seventh more proximal in 5 and 6, all edged with black outwardly; a narrow submarginal line, thinly edged with black on the inside; outer margin narrowly black, fringes grey; inner margin grey, joined to the submarginal line at the submedian.

Antennae black, ringed with white, palpi black marked with white, eyes brown, edged with white; head and thorax black; abdomen darker blue than wings, ventral surface grey; legs black marked with white.

? Resembles libentina Hew. Upperside of fore wing with a brick-red band from vein 6, just beyond cell to base of vein 2, sometimes reaching submedian, widest in cellule 3 and narrowing anteriorly. The cell, costal area, apical area, and margins black-brown. Hind wing black-brown with incomplete brick-red discal band between veins 6 and 2, becoming broken and fading out posteriorly; in one specimen this band is reduced to a few small scattered patches of scales.

Undersurface resembles 3. Fore wing with a black curved apical band from costa to vein 3, in one specimen to vein 2. Hind wing with the red areas reduced.

Length of fore wing: ♂♀,15 mm.

Habitat—W. Semliki River, near Lesse, January, 1920 (type) β ; W. Semliki River, Cartouche, January, 1920, four β δ .

In the British Museum coll. Neave, Semliki Valley, Buamba Forest, 2,300-2800 feet, July 3, 1911, three \mathcal{S} \mathcal{S} ; Mpanga Forest, Toro, 4,800 feet, November, 1911, four \mathcal{S} \mathcal{S} five \mathcal{S} \mathcal{S} ; Budongo Forest, Unyoro, 3,400 feet, December, 1911, four \mathcal{S} \mathcal{S} .

Mr. Barns notes that this species is found resting on stems of large trees in open glades of the forest.

50. Pentila auga congoensis subsp. nov. (pl. XIV, fig. 51).

Distinguished by the shorter stripes on both sides of hind wing, and the absence of the spot in cellule 1c of hind wing below.

3. Upperside of fore wing with vein-stripes 2 and 3 a little shorter, marginal spots in 4 to 7, costal spots larger and outer cell-spot smaller than in type, spot below vein 2 absent. Hind wing with reduced marginal stripes, no spot in cellule 2.

Underside with shorter marginal stripes on both wings. Fore wing without a spot below vein 2. Hind wing with no spot in cellule 1c.

 $\mathfrak P$. Larger and paler. Vein stripes shorter than in the $\mathfrak d$. Fore wing with spot in base of cellule 3.

Habitat.—Itoa River, Ituri Forest, January, 1920, one δ (type);

Lower Butahu River, Semliki Valley, December, 1919, one ?. Found in dense forest.

51. Citrinophila terias sp. nov. (pl. XIV, fig. 53).

This species is allied to *erastus* Hew., and resembles the smaller and more widely margined specimens of *Terias brigitta*. Intermediate in size between *erastus* and other species of the genus.

2. Upperside pale yellow as in erastus 3.

Fore wing with black distal area, broader apically, and extending narrowly along costa from above the cell, inner edge slightly curved anteriorly to vein 4 and thence straight to inner margin before the outer angle. Hind wing with black marginal border at least 2 mm. broad from vein 7 to anal angle, with some sparse scaling along inner margin; this border slightly incurved between veins 5 and 7, as in erastus.

Underside creamy-white, deep yellow at base. A marginal series of black spots on both wings, the apical spot in both wings being the larger; these spots with ill-defined edges as in *erastus*.

Coloration of body and appendages as in erastus.

Length of fore wing, 16 mm.

Habitat.—Ituri Forest, N. W. Beni, January, 1920, one ♀ (type); Itoa River, Ituri Forest, January, 1920, one ♀.

Found in dense forest at 900 m.

52. Liptena ilma lathyi subsp. nov. (pl. XIV, fig. 52).

This striking form is at once distinguished by the white patch on the fore wing above.

3. Upperside with ground colour as in *ilma* Hew. Fore wing with a large white discal patch, variable in size, reaching to just above vein 3, filling base of cellule 3 and generally the base of 2, extending a little below vein 2 and distally reaching the submedian, curved on its outer edge, and from 3 to 5 mm. broad at vein 2. Black discocellular spot much larger than in typical form. Hind wing with large discocellular spot, and white costal area reaching vein 7.

Underside as in typical form but with longer discal black spots, extended brown apical patch, and the postdiscal brown line on the hind wing strongly marked.

Length of fore wing: 14 to 15 mm.; ilma, 12 to 13 mm.

Habitat.—Rutshuru River, N. Kivu, November, 1919, five 3 3.

53. Eresina toroensis sp. nov. (pl. XIV, figs. 54, 55).

Found most commonly in the Mpanga Forest, Toro District of Uganda, by Dr. Neave.

Allied to corynetes Gr.-Sm. Vein 6 of the fore wing much nearer to the cell than in corynetes.

- 3. Similar to corynetes but the patch on the hind wing only reaches vein 4. Underside as in ♀ but wholly earthy-brown.
- Q. Upperside with black ground-colour. Fore wing with a rounded orange patch on the inner margin, reaching vein 4 and not reaching base nor outer angle, and filling up the bases of cellules 2 and 3. Slight greyish costal scaling as in *corynetes*. Fringes too worn for description. Hind wing with orange area as in *corynetes*, but diffused over the inner margin.

Underside greyish-brown finely dusted with black. Fore wing with the orange patch showing through, some greyish-white costal scaling and submarginal black strigae. A black discocellular streak; two black postdiscal spots in 4 and 5, the lower placed more distal; two black postdiscal spots in 2 and 3, one below the other. Hind wing with a black subbasal spot in 7 and an angled spot beyond it; a black discocellular line; a spot below origin of vein 2; a curved series of five postdiscal spots in 1c, 2, 4, 5 and 6; two indistinct submarginal lines.

Antennae black ringed with white. Palpi black, white below. Head black, frons edged with white. Thorax black above, greyish below. Legs black banded with white. Abdomen black above, ventral surface grey-brown. (?).

Habitat.—Ituri Forest, N.W. Beni, January, 1920, one \$\circ\$ (type).

In British Museum from Entebbe, January, 1913, 3 3; Mpanga Forest, Toro, 4,800 feet 13—23, xi. 1913, seventeen 3 3 four 3 4; S.E. Ankole, 4,400-4,800 feet, October, one 3 three 3 4.—All collected by S. A. Neave.

54. Epitola ammon sp. nov. (pl. XIV, figs. 60, 61).

Allied to *ceraunia* Hew., but the female is distinguished by its smaller size, hind wing without blue scaling, and fore wing with only a streak of blue in the submedian interspace.

?. Upperside black-brown. Fore wing with a white spot at end of cell and another outside the cell in 4; a curved postdiscal series of white spots in 2—6, the one in 2 the larger, the one in 4 the smaller; a pale blue basal streak on the submedian fold. Hind wing unicoloros, paler in the discal area, with a few scattered pale blue scales.

Underside pattern similar to ceraunia but with darker ground-colour. Fore wing with smaller spots than in ceraunia, apical scaling grey-white. Hind wing with markings grey-white, postdiscal band not sharply defined, narrower than in ceraunia and inner edge more proximal, forming a streak along lower edge of cell but not touching the cell above vein 3, the elongate spot in 5 separated from the lower part by vein 5; marginal spot in 6 well defined, and between this and vein 8 the fringe is grey-white. A grey-white marginal patch in 3 and 4, slightly connected with postdiscal band.

Fore wing shorter and more pointed at the apex than in *ceraunia*. Hind wing shorter and with a slight anal lobe.

Length of fore wing: 19 mm.

Habitat.—Penghe, North bank Ituri River, March, 1920, one ♀, T. A. Barns. Collected in dense forest.

55. Epitola viridana sp. nov. (pl. XIV, figs. 58, 59).

Allied to *pinodes* Druce, and to *mus* Suffert, but distinguished by the green markings.

3. Upperside with black-brown ground-colour, and dull green markings. Fore wing with some green scaling at base of cell, in the middle, and at the end. Some scattered green scaling below cell at base, a triangular spot below vein 2, a square spot above it placed more dista, scattered green scales in 3—5. Hind wing with scattered green scaling in the cell and in cellules 1c, 2—5.

Underside pale fuscous-brown. Fore wing black from base to the first submarginal line, and between veins 2 and 5, shading into the ground-colour. Inner margin fuscous-grey, a pale spot in 1b, terminating the postdiscal line. A pale postdiscal line from costa to vein 2, interrupted by the veins and outwardly curved. A pale submarginal line, slightly waved, from costa to margin at vein 2. A second thinner submarginal line from near apex to margin at vein 2 where it joins the first. Hind wing with markings a little paler than the ground-colour. A curved basal line, a thin indistinct discal line approximating to the basal line anteriorly and posteriorly, a curved and strongly waved postdiscal line, a crenulate submedian line at the same distance from the postdiscal line as that is from the discal one, a fine slightly crenulate antemarginal line.

Length of fore wing: 16 mm.

Habitat.—South side Ituri River, five days west of Irumu, March, 1920, one β , T. A. Barns.

56. Epitola marginata, Kirby, ♀ (pl. XIV, figs. 56, 57).

E. marginata, Kirby, Ann. Nat. Hist. (5) 19, p. 443 (1887) (Cameroons). $\mathcal S$. Smith and Kirby, Rhop. Exot. 7, Lyc. Afr., p. 27, pl. 7, figs. 5, 6 (1889) $\mathcal S$.

Aurivillius in his Rhop. Aeth., p. 293, places versicolor Kirby as the \circ of this species. The type \circ is in the Joicey collection and does not agree with marginata in the markings below. This \circ agrees very well below with cercene Hew.

The " \mathfrak{F} " of versicolor, which is a \mathfrak{P} , agrees best with uniformis Kirby in the markings below, the so-called \mathfrak{P} of that species being evidently a \mathfrak{F} with a paler coloration.

If these suggestions should be confirmed by the study of larger material or by other means, the name *uniformis* would sink to versicolor.

The $\mathfrak P$ which we assign to marginata is very similar to the $\mathfrak P$ we have placed with uniformis, i.e., the $\mathfrak P$ figured by Smith and Kirby as the $\mathfrak F$ of versicolor. The blue on the hind wing is more extended and there is a distinct white spot at its distal edge between veins 4 and 6.

On the underside the submarginal lines are strongly crenulate as in the 3, the one nearest the margin being further from it than in *uniformis*. The hind wing markings are as in the 3. The ground-colour is grey-brown, but paler than in the 3 of *uniformis*.

Length of fore wing: 19 mm.

Type from Albertville, S. E. Congo, June, 1920, T. A. Barns, 1?.

E. versicolor, Kirby, A.M.N.H. (5) 19, p. 444 (1887) (Cameroons). Rhop. Ex. Afr. Lyc., p. 28, pl. 7, figs. 9, 10 (1889).

E. uniformis Kirby, l.c. p. 445 (1887) (Cameroons). Rhop. Ex. 1. Afr. Lyc., p. 29, pl. 7, figs. 11, 12 (1889).

E. cercene Hew., Ent. Mo. Mag. 10, p. 150 (1873) (Cameroons) 3. Ill. Diurn. Lep., Supp. p. 20, pl. 1b., figs. 19, 20 (1878), 3.

57. Epitola iturina sp. nov. (pl. XIV, fig. 62).

Allied to dorothea B.-Bkr., but has still more extended blue and different markings below.

3. Upperside of fore wing with blue area reaching close to margin between a point midway between veins 2 and 3 and the outer angle. Hind wing as in *dorothea* with some blue scaling in lower distal part of cellule 6.

Underside more like that of carcina Hew. Fore wing with the second submarginal grey band farther from the submarginal line and broader, especially the spots in 2 and 3, which are somewhat quadrate, Hind wing with the grey discal band broader than in carcina and farther from the submarginal line.

Length of fore wing: 20 mm.

Habitat.—Forest between Ituri and Lindi Rivers, S.W. of Avakubi, April, 1920, one 3. Taken on an oil-palm.

- 58. Epitola urania tanganikensis subsp. nov. (pl. XIV, fig. 63).
- 3. Upperside with extended black area. Fore wing with blue area 4 and 5 less produced than in 2 and 6; outer edge of blue area from vein 3 to submedian fairly straight; basal area of cellules 6, 3 and 9 not blue, forming a costal indentation of ground-colour. Hind wing with the marginal black border broader than in typical form.

Underside resembles that of the typical ? in the golden coloration of apex of fore wing and of the hind wing. Markings very similar, but the grey discal spots on the fore wing are obsolete in 2 and 3, the subapical ones being reduced.

Habitat.—Albertville, Tanganyika, June, 1919, three & &.

- 59. Hewitsonia kirbyi Dew. ? form intermedia form. nov. (pl. XV, fig. 65).
- \mathfrak{P} . Upperside differs from $kirbyi \ \mathfrak{P}$ in the absence of the spot in 2 on the fore wing. Differs from similis in the absence or only slight indication of the spot in 1b on the fore wing. The hind wing is either wholly brown or with a white distal area.

Underside more resembles kirbyi in the darker and more deeply yellow markings on the hind wing. On the fore wing resembling similis.

Habitat.—Ituri District, N.W. Beni, January, one $\$ (type); Ituri Forest, thirty miles S. of Irumu, bordering long-grass country, February, one $\$, T. A. Barns; Mabera Forest, Kyagive, Mulanga, Uganda, 4,000 feet, R. A. Dummer, one $\$; Cameroons, ex collection, Grose-Smith, one $\$.

Mr. Barns records that the first specimen was taken at 2 p.m., resting on a dry twig at right angles, with wings folded; closely resembles a dry leaf. Inconspicuous on the wing.

As the genitalia of kirbyi Dew. and similis Auriv. exhibit no difference, and the difference in markings between the 3 3 of these forms

is slight, we may infer that whilst the $\mathfrak P$ of simils has diverged definitely from the $\mathfrak P$ of kirbyi, the $\mathcal S$ has only slightly diverged, and is probably only an individual aberration.

These forms are not confined to any one season. The distribution is as follows:—

- 1. f. kirbyi.—Gaboon, Cameroons, Angola, Kassai River, French Congo.
 - 2. f. similis.—Gaboon, Cameroons, Upper Kassai, Longji.
 - 3. f. intermedia.—Cameroons, Ituri Forest, Uganda.
 - 60. Hewitsonia bitjeana B.-Bkr.
- H. kirbyi bitjeana Bethune-Baker, Ann. Mag. N. H. (8), 16, p. 190 (1915).
- H. beryllina Schultze, Archiv f. Naturges., 81 Jahr., Ab. A., p. 163 (1915) (pub. 1916).

The genitalia of *bitjeana* show an important difference from those of *kirbyi* in the shape of the sickle-like process arising from the base of the uncus and surrounding the anal tube (pl. VIII, fig. 3).

Upon these considerations we must treat bitjeana as a distinct species.

61. Epitola posthumus Fbr., and urania Kirby.

We have examined the genitalia of these forms and there is no doubt but that they are distinct species.

The differences in the genital armature will be apparent upon reference to the drawings on plate VIII. It will be noticed that there are differences in the shape of the uncus, in the shape of the sickle-like process arising at the base of the uncus, in the shape of the strongly-chitinized process arising from the juxta (penis sheath and penis of some authors), and the formation of the two processes arising from this organ.

62. Hewitsonia boisduvali congoensis subsp. nov. (pl. XIV, fig. 64).

The typical form occurs in the Cameroons, French Congo, Sierra Leone, and Gold Coast.

The eastern race is characterized by increased blue and narrower subapical band.

3. Upperside of fore wing with subapical band narrower than in typical form. Occasionally narrow-banded specimens occur with the typical form. The blue area extends almost or quite to base of cellule 2, and touches the cell below vein 2. Hind wing with blue extending into the cell, almost filling it with thin scaling, and not reaching the base; a discocellular mark of dark ground-colour.

Underside with no constant differences.

?. Fore wing with narrower band, of which the lower spot in cellule 4 reaches nearly to margin. The patch at the outer angle is reduced proximally.

Habitat.—Itoa River, Ituri Forest, January, 1920, one 3 (type); Upper Kasai District, Congo Belge, 6 3 3 one 9 (ex-collection H. H. Druce.)

63. Hypokopelates ituri B.-Bkr. f. lineosa form. nov.

Distinguished from typical specimens of *ituri* by the much thinner and paler discal lines below, by the absence of any brown distal suffusion, and by the more grey-white ground-colour.

The upperside is not different from the typical form.

As the markings are exactly similar to those in *ituri* we can only regard this as an aberration.

Habitat.—Between Lindi and Lubila Rivers, north of Batama, April, 1920, two & &; Lindi River, Lubila Valley, twenty miles north of Batama, April, 1920, one & (type); Lindi River (open forest), north side near Bafwasende, April, 1920, one &; forest on watershed of Ituri and Lindi Rivers, S.W. of Avakubi, April, 1920, one &; Avakubi, Ituri River, April, 1920, two & &; forest between Epulu and Ituri Rivers, one &; E. Epulu River, N. Ituri Valley, between Penghe and Irumu, March, 1920, one &, T. A. Barns.

The following series of ituri was also taken:—

Forest between Epulu and Ituri Rivers, March, 1920, one 3; between Epulu and Duye Rivers, North Ituri Valley, March, 1920, one 3; East Epulu River, North Ituri Valley, between Penghe and Irumu, March, one 3; Ituri River, Ituri Forest, January, 1920, one 3; Ituri River, three days' west of Irumu, March, 1920, one 3; Ituri River, five days' west of Irumu, March, 1920, one 3; near Bafwaboli, Tshopo River, April, 1920, one 3; Tshopo Valley, near Batama, April, 1920, one 3; north side Maiko Valley, near Stanley-ville, May, 1920, one 3 one 2, T. A. Barns.

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Both series of forms show variation in the extent of blue on the fore wing, but the tendency is to a wider black margin. This form is doubtless only a race of *eleala* Hew., which, however, may prove equally variable were a good series obtained.

64. Hypokopelates canescens sp. nov. (pl. XV, figs. 72, 73).

Allied to obscura B.-Bkr. T. E. Soc. 1913, p. 501. Distinguished by its grey-brown upperside.

 \mathcal{S} . Upperside grey-brown with some scattered blue scales. Fore wing with black fringes. Hind wing with white fringes; anal lobe with orange spot and some metallic blue scales.

Underside white. Fore wing with post-discal narrow orange stripe, edged with black. A grey submarginal line, indistinct anteriorly. Some pale grey apical suffusion. Hind wing with narrow orange post-discal stripe edged with black, shaped as a distinct W between veins 1a and 3; a grey submarginal crenulate line from vein 7 to 1b, and beyond it a grey marginal band not touching the margin; a quadrate orange marginal spot in 2, bearing a large rounded black spot; anal lobe black edged with orange behind; outer marginal edge finely black fringes white.

Antennae black, ringed with white. Palpi black above, white below. Head black, from white in the centre. Thorax black above, white below. Legs white banded with grey. Abdomen black above, ventral surface grey-white, segments 5—9 banded with white laterally.

Length of fore wing, 14 mm.

Habitat.—Albertville, Tanganyika, June, 1919, one 3.

65. Tanuetheira prometheus congoensis subsp. nov. (pl. XV, fig. 74).

Described from a single $\, \circ \,$ which is sufficiently different to deserve a name.

? Upperside with the blue colour not greenish as in typical form. Hind wing with the white postdiscal spot in 3 well-developed and some white scaling above it in 4. Broader extent of distal black from anal angle to vein 3, white marginal bars thinner.

Underside of fore wing without grey apical suffusion; a second submarginal line faintly marked. Hind wing with submarginal line farther from the margin; red anal area reduced and not touching post-discal line.

Habitat.—Albertville, Tanganyika, June, 1919, one ?.

66. Argiolaus silarus iturensis subsp. nov.

Distinguished by the narrower dark margin on the hind wing and smaller red anal spots; on the underside by the distinct and yellow postdiscal lines.

Q. Upperside of fore wing as in typical form but without white
discal scaling. Hind wing with narrower dark outer margin, extended
blue, and the postdiscal spots smaller and more broadly bordered with
blue outwardly. The two red anal spots much smaller.

Underside of fore wing with thin yellow postdiscal line, slightly curved. Hind wing with yellow postdiscal line thicker than on fore wing, straight from costa to the red spot in 2, thence to the anal spot, which is edged with black on the side of the lobe.

Habitat.—Forest on watershed of Ituri and Lindi Rivers, S. W. of Avakubi, April, 1920, T. A. Barns, one ?.

67. Epamera fuscomarginata sp. nov. (pl. XV, figs. 70, 71).

Allied to *sappirus* Druce, and agrees with this species in possessing a buff-coloured patch of scales on the costal area of the hind wing above.

3. Upperside of fore wing with pale-blue basal area of same shade as *sappirus*, outer edge nearly straight, not entering cellule 3, and angled along submedian. Hind wing as in *sappirus* but without a black anal spot in 1c, and with paler inner margin.

Underside with broad postdiscal bands placed as in other forms. Fore wing with distal area from costa to vein 2 fuscous-brown, leaving a square white marginal patch in 3 and 4, bounded by the submarginal line. A broad tuft of black hair arising on the edge of the inner margin. Hind wing with fuscous-brown apical patch from vein 8 to 5. Postdiscal band broader than on fore wing, orange-yellow, darker anteriorly, edged with fuscous on the inside, not interrupted, and bearing a thin line of metallic-blue scales from vein 4 to the submedian, and a similar line edged with white from below submedian to inner margin. A black spot in 2 lying mostly in the orange-yellow band. Anal spot as in sappirus. The inner edge of the postdiscal band on both wings is much more proximal than the line in sappirus or in any other species we have seen.

Length of fore wing: 18 mm.

Habitat.—Bafwaboli, Tshopo River, April, 1920, one 3, T. A. Barns, "Taken in dense forest undergrowth."

68. Epamera barnsi sp. nov. (pl. XV, fig. 66, 67).

Allied to *mirabilis* Druce, Ann. Mag. Nat. Hist. (7) xi, p. 71 (Sierra Leone (1903). Distinguished by the glossy costal area of the hind wing extended to the black marginal patch.

3. Upperside of fore wing as in *mirabilis*, the blue area being paler. Inner margin fringed with white hair. Hind wing of same blue colour as on fore wing. The glossy-grey costal area touches the lower margin of cell and extends to an anterior black marginal patch which is placed as in *mirabilis*, but in this species the black patch is divided from the glossy area by the blue ground-colour. Inner margin grey, blackish-brown at the anal angle. A black anal spot edged with metallic-green outwardly, and with an orange-red spot above it. A white submarginal line from vein 2 to the anal spot.

Underside chalky-white and somewhat differently marked to *mirabilis*. Fore wing with a postdiscal slightly curved thick brown line from costa to vein 2. Distal area suffused with grey-brown, and midway between the thick line and the margin is a thin line more strongly curved, reaching vein 2. Posterior area below vein 2 glossy, and with a narrow stripe of androconia along the submedian and a darker grey and similar but broader stripe at the base below the submedian.

Hind wing with a brown postdiscal line almost straight, interrupted at vein 2, posteriorly curved to 1b and bent upwards to the inner margin. A thinner and slightly curved irregular submarginal line reaching vein 3; a thicker admarginal line from vein 7 to 3. A quadrate orange-red spot in 2, its inner edge interrupting the postdiscal line, and with a black spot on its outer half. A thick line of similar colour runs from the lower outer edge of the large spot to a large orange-red anal spot, and is bent at the submedian slightly upwards to the inner margin. A black anal spot as in mirabilis, its upper edge entering the orange-red spot; some metallic-blue scales along the outer edge of the orange band, and some blackish dusting between the anal spot and vein 2.

Length of fore wing: 17 mm.

Habitat.—Bafwaboli, Tshopo River, April, 1920, one $\mathfrak F$, T. A. Barns.

69. Epamera frater sp. nov. (pl. XV, figs. 68, 69).

Closely allied to barnsi and mirabilis Druce. Distinguished from both by possessing the hair tuft on the fore wing below, characteristic of other Epamera.

3. Upperside of fore wing with pale-blue area as in barnsi, but the outer edge of this area is angled at the submedian. Hind wing as in barnsi except that the speculum extends to the margin at vein 6, and above and below this vein is separated from the margin by a narrow area of black scaling. The lower edge of the speculum is straight, whereas in barnsi the blue area curves into it at the black anterior patch. Between veins 7 and 8 there is a large round patch of modified scales of a buff colour, and at the lower edge of this patch are similar scales of a blackish-brown colour which extend to form a patch between veins 7 and 6. The costa is strongly lobed.

Underside of same pattern as in *barnsi*. Fore wing with a short discocellular streak, postdiscal and submarginal lines thinner than in *barnsi*, and with less grey-black apical suffusion. A tuft of long grey hair on the inner edge. The lower edge of cell is strongly curved. The glossy area is more vitreous than in *barnsi* and has a silvery lustre; it may properly be termed a speculum.

Hind wing with thinner lines than in *barnsi* and a smaller black spot in the red spot in 2.

Length of fore wing: 16 mm.

Habitat.—Between Lindi and Lubila Rivers, N. of Batama, April, 1920, 3 & 3, T. A. Barns.

70. Hypolycaena buxtoni puella subsp. nov. (pl. XV, figs. 75, 76).

Distinguished by the sharply defined edge of the white band on the fore wing. 3 not known.

\$\copp.\$. Upperside markings much as in the type form. Fore wing with sharply defined outer edge to the white band, which is angled outwardly at veins 4 and 2; this band not invaded by ground-colour. Hind wing with the narrow white submarginal band indistinct or obsolete.

Underside markings similar to type form. Fore wing with thick orange transverse cell-stripe from just before origin of vein 2 to the costa. Postdiscal stripe thicker and more irregular than in type-form. Hind wing with a short sub-basal bar in cellule 7, which in the type-form is represented by a dot. Postdiscal line heavier, straight and much more oblique, from a point on vein 8 more proximal than in type form; from vein 2 this line is black, half as thick, more distally curved, and reaches a point farther along the inner margin. A submarginal line of dark grey.

Length of fore wing { 19 mm. (Specimen from Kivu.) 20 mm. (Specimen from Ruwenzori.)

Habitat.—Ruwenzori, Western slope, 2,500 m. December, 1919, one \$\chi\$ (type); Kisaba Forest, Ruanda, E. Lake Kivu, September, 1919, one \$\chi\$.

The specimen from Ruwenzori is larger and more strongly marked than the other.

71. Hypolycaena japhusa Riley (pl. XV, figs. 77, 78 3).

We take the opportunity of figuring the 3 of this form. This specimen was lent to Mr. Riley to describe with his 2 from the Dollman collection. See Index for reference.

72. Zeltus antifaunus latimacula subsp. nov. (pl. XV, figs. 79, 81, \mathfrak{F} , 80 \mathfrak{P}).

Distinguished by the larger white spots on the hind wing in both sexes.

3. Upperside of fore wing as in antifaunis D. and H. Hind wing with two distinct submarginal spots. Postdiscal spots larger, often a second spot or traces of one in cellule 4. White anal spot larger.

Underside of fore wing without grey apical suffusion. Postdiscal stripe more oblique. Hind wing with smaller black marginal spot in 2.

?. Upperside of fore wing with faintly blue basal area, outwardly diffused and enclosing a curved black postdiscal line; outside postdiscal line a white spot below vein 2 and some whitish scaling above it. Hind wing with a thinner postdiscal line, darker basal area, and larger white spots. Anal lobe black.

Underside as in male.

Habitat.—Lumpungu River, Malagarassi Valley, Urindi District, July, 1919, one & (type); Lake Tshohoa, Ruanda District, August, 1919, & & &, one & (& allotype); Akanjaru River, Ruanda District, August, 1919, one &; Ruindi Plains, S. end Lake Edward, November, 1919, one &, coll. T. A. Barns. Also in Joicey collection, from Fort Jameson, N. Rhodesia, one &; Toro, Uganda, February, & & &; Mabera Forest, Uganda, Jackson, 1906, one &; Entebbe, Uganda, 1901, A. H. Neumann, one &; Entebbe, one &; Uganda, & & &.

The Uganda specimens, with one exception (Toro), only show two white postdiscal spots on the hind wing.

73. Cupidesthes cuprifascia sp. nov.

Distinguished by its coppery markings above.

3. Upperside with black ground-colour. Fore wing with cupreous orange median band placed obliquely below vein 2—its lower edge along the inner margin, its upper edge along lower margin of cell, its distal edge even and reaching tornus, its proximal edge even and subbasal. Hind wing with lower distal half of same colour as fore-wing band, embracing an area from inner margin to vein 6 and extending into end of cell.

Underside dark grey with bands formed of white lines edged on the inner side with dark brown. Fore wing with discal band from vein 6 to inner margin, its proximal edge angled at vein 3, with anterior part along discocellular and posterior part from veins 3 to origin of 2 and thence to margin. A postdiscal band of five spots, those in 4-6 narrowing anteriorly, the two in 2 and 3 larger, more proximal, and coincident with discal spots. A greyish-white marginal band enclosing a thin brown submarginal line.

Hind wing with a small black subbasal spot in 7. An irregular discal band from vein 6 to inner margin. A rounded black spot on inner margin between base and discal band. A curved post-discal band of seven spots from costa to inner margin, the spots smaller than those of the discal band. Greyish-white marginal band enclosing the brown submarginal line. Two or three small orange anal spots, edged with black distally and bearing metallic-blue scales. This wing somewhat rubbed and markings not too clear.

Length of fore wing: 13 mm.

Habitat.—Bafwasende, Upper Congo, April, 1920. In dense forest one β .

74. Cupidesthes minor sp. nov. (pl. XV, figs. 82, 83).

Distinguished by its very small size.

? Upperside black-brown. Fore wing with pale blue basal area, extending into lower part of cell and into base of cellule 2. Hind wing with pale blue basal area forming a cell-stripe to beyond cell, and a faint stripe in 1c. A white submarginal line between submedian and vein 6, interrupted in 2 by the orange border to the black submarginal spot. A fine white marginal line. Fringes of both wings grey.

Underside grey-white with spots defined by grey-brown and white edging. Fore wing with a spot closing the cell; a postdiscal series of

six spots in 2-8, the anterior one minute, the outer edge of the lower two shifted in; a spot between 2 and the submedian, more proximal than the postdiscal series; a grey submarginal and a broader grey marginal line. Hind wing with a spot closing the cell; three confluent discal spots between 3 and the inner margin, the inner edge angled at submedian; a postdiscal series of six spots in 2-7—the two in 4 and 5 more distal than the others; a grey submarginal line and a darker marginal one, both interrupted by the orange-bordered black spot in 2; a small orange anal spot with black centre.

Length of fore wing: 10 mm.

Habitat.—Avakubi, Ituri River, April, 1920, one ♀, T. A. Barns. Seen flying high over shrubs and trees, and feeding on plant-juices.

75. Lycaenesthes discimacula sp. nov. (pl. XVI, figs. 87, 88).

Allied to mahota Gr.-Sm. but distinguished by a smaller patch on the fore wing and the hind wing bearing only a small discal spot.

3. Upperside with black ground-colour. Fore wing patch smaller than in mahota, reduced distally, especially in 4 and 5, forming a small anterior projection, and distally rounded. Hind wing with a small somewhat triangular cupreous discal spot in cellules 2-4. A small marginal spot in 2, thinly outlined proximally as in allied forms.

Underside with black-brown ground-colour and with thinner lines than the allied form. There are eight lines on each wing in most Lycaenesthes forms. Taking into account a certain variation existing in a series of mahota, the present form presents no differences worth definition on the underside, excepting the reduction of white coloration, resulting in thinner lines, and that the fourth line from the lase on the fore wing, is thicker than the others.

Habitat.—Ituri Forest, N.W. Beni, January, 1920, one 3; Ituri River, North bank, half-way between Avakubi and Penghe, May, 1920, one 3; between Epule and Duye Rivers, N. Ituri Valley, March, 1920, one 3 (type).

76. Lycaenesthes bipuncta sp. nov. (pls. XV, figs. 84, 85 \Im , XVI, 86 \Im).

Distinguished from other allied forms by the divided ochreous patch on the fore wing.

3. Upperside black-brown. Fore wing with an ochreous patch between the submedian and vein 3; the upper edge of this patch

rounded and the part in cellule 2 dusted with black, the patch divided from vein 2 by a narrow line of ground-colour broadening at the submedian. Hind wing with dark markings faintly showing from below. An indistinct submarginal and a marginal line.

Underside black-brown, with white markings. Fore wing with a short basal costal stripe, a stripe at end of cell, notched on the lower edge, and with two white dots above it on either side, below it an oblong spot between vein 2 and submedian with a notch on its upper edge; a postdiscal line between veins 2 and 6; an oblong patch below this between 2 and the submedian; a second postdiscal line oblique from costa to vein 4, then curved down to below 3 where it joins a short thick line reaching vein 4; a subapical line between veins 9 and 5, interrupted at vein 6; a thick apical line between veins 9 and 5; a submarginal line and a thinner marginal one.

Hind wing with a white basal line; a subbasal line; a curved discal line touching a bar at end of cell; a postdiscal line, heavily marked between veins 2 and 7, curved outwardly from vein 2 and curving round the inner margin to near the discal line, where it bends sharply outward to the submedian and thence inwards to vein 2, forming a V mark; a second postdiscal line, curving to the first in cellule 5 and also at the anal angle, where it curves round to meet the discal line; a submarginal line curving sharply outward between veins 4 and 6, accentuated by a spot in 6 and heavily marked from vein 4 to 2, where it joins the postdiscal line; between the submarginal and postdiscal line two blackish spots in 4 and 5 edged with white on the outer side; two marginal lines more or less confluent; the usual anal spot and marginal spot in 2.

?.—Upperside of fore wing with large pale ochreous patch between submedian and vein 3; invaded by ground-colour in 2 leaving a small outer spot, also below 2 with a spot of ground-colour leaving a larger distal part; a small-spot in cell above base of cellule 2. Hind wing with a pale indistinct submarginal line following the one on the underside, an antemarginal line and a fine white marginal one. Some black discal spots representing those on the underside.

Underside as in the 3 but with white markings more heavy.

Length of fore wing: ♂♀ 12 mm.

Habitat.—Cartouche, near Lesse, W. Semliki River, January, 1920, one 3 (holotype); between Lindi and Lubila Rivers, north of Batama, April, 1920, one 2 (allotype), T. A. Barns.

Collected in dense undergrowth.

77. Triclema ituriensis, sp. nov. (pl. XVI, figs. 89, 90).

Allied to rufoplagata B.-Bkr., but distinguished by the larger rufous patch on the fore wing and the differently-marked underside.

3. Upperside blackish-brown. Fore wing with a larger rounded rufous or dark coppery patch, from 1b to vein 6, extending into end of cell and invaded by the black discocellular spot. A fine black marginal line. Hind wing with fine black marginal line and faint greyish submarginal line.

Underside with grey-brown ground-colour, and grey-white lines forming bands as in allied forms. Fore wing with subbasal oblique line; a discal line crossing cell and angle of vein 2; an oblong spot closing cell, divided by a grey line; a postdiscal line from costa to vein 2, where it is interrupted and continued more proximally to the submedian; close to the postdiscal line, a second line more straight from vein 4 to submedian; a third postdiscal line beginning at a point close to the first, angled outwards at vein 5 and continued to the inner margin parallel with the second; between the second and third postdiscal lines, two black spots in 2 and 3; a submarginal line from costa to vein 2, curved outwards anteriorly and posteriorly convergent to the postdiscal line; a postdiscal bar in cellules 4 and 5, bearing two black spots, its inner edge continued to the costa close to the outer discal line; a second submarginal line nearly parallel to the margin, from costa to inner margin; a thin marginal line.

Hind wing with two large black basal spots; a spot closing the cell and divided by a grey line continued to vein 2; below this, with its anterior end more proximal, is an ovate spot touching vein 2 and the submedian; a black bar from lower end of ovate spot to inner margin; outer white line of the discal spot continued to costa; a postdiscal line from costa to the inner margin, where it joins the white line bordering the black bar; a large black costal spot in 7 and a small black spot in 2; a second postdiscal line beginning close to the first, strongly curved outwards and ending at vein 3 on the first line; between these two lines 3 black spots in 3-5, the centre one much larger than the others; a submarginal line from costa to vein 2, outwardly curved; a second line close to the margin from costa to vein 3; a fine white marginal line; a black marginal spot in 2, edged with metallic blue scales and outwardly with cupreous, a smaller black double anal spot similarly marked.

Length of fore wing: 10 mm.

Habitat.—Avakubi, Ituri River, April, 1920, 5 3 3; Penghe, N. bank Ituri River, March, one 3.

78. Oboronia rutshurensis sp. nov. (pl. XVI, fig. 96).

Allied to *plurilimbata* Karsch, but distinguished from all known forms by the blue basal area on the fore wing and the black veins of the hind wing.

2. Upperside white. Fore wing with broad distal black marginal area, basal area pale blue to vein 2, its edge at right angles to inner margin; costa more or less narrowly brown. Hind wing with veins brownish-black. Cellules 1a, 1b, and 7 dusted with grey. A small black distal spot in 7, a large brownish-black marginal patch in 6, a postdiscal line of four spots in 2—5, the spots in 2 and 3 more proximal than the others. A blackish-brown marginal border bearing five proximally rounded spots faintly outlined with white. Some greyish dusting at base of cell and in distal part of cellules 2 and 3.

Underside white, with markings very similar to those of plurilimbata. Fore wing with a thin postdiscal line of six short pale-brown streaks, nearly parallel with outer margin. A submarginal thin pale brown line parallel with margin, and interrupted by the veins, a second similar line nearer the margin; but more widely interrupted at the veins, a fine brownish-black marginal line. Fringes white, greyish anteriorly. Hind wing with two black subbasal spots in 7 and in the cell, a third and larger black discal spot in 7, a postdiscal pale brown series of spots as on upperside, but of six spots placed as in the allied species. A pale brown somewhat crenulate submarginal line. A submarginal pale brown spot in 6 followed by three pale dots in 5-3, a black spot in 2, and a black bar or double-spot in 1c.

Body and appendages coloured as in other species.

Length of forewing, 15 mm.

Habitat.—Rutshuru River, N. Kivu, November, 1919, seven \mathfrak{P} . No other species of the group was taken in this district, but three species were found in the Ituri region, and all the specimens were \mathfrak{P} .

79. Catochrysops celaeus kivuensis subsp. nov. (pl. XVI, figs. 91, 93 \mathfrak{F} , 92 \mathfrak{P}).

Distinguished especially in the P by the narrow dark distal edge of fore wing, and absence of the second discal spot on hind wing.

3. Upperside without distinguishing differences.

Underside of fore wing with postdiscal band straighter, the three anterior spots less obliquely placed. Hind wing with anterior spot of postdiscal band placed more proximally, the spots in 3-5 placed more obliquely, and leaving a larger interspace between the band and the discal spot.

2. Upperside of fore wing with blue area extended into cellules 7-9. Hind wing without discal spot in 4 and 5, base of 6 filled in with blue.

Underside as in the 3.

Habitat.—Near Loya. Valley, fifteen miles south of Irumu, 1,200m, February, 1920, one & (type); Kissenji, Lake Kivu, September and October, 1919, one & (allotype); Rutshuru River, N. Kivu, November, 1919, one &; Lava Plains under Niragongo Volcano, Kivu, October, 1919, one &; Loya Valley, twenty miles south of Irumu, February, 1920, one &.

Found in grassy country, and not frequent.

80. Catochrysops kisaba sp. nov. (pl. XVI, figs. 94, 95).

Allied to crawshayi Butl., P.Z.S., 1899, p. 422, and to noquasa Trim., which also appears to belong to this group. Distinguished from crawshayi by its rounded wings, and below with almost unmarked fore wing, and hind wing with a grey-white ground-colour.

3. Wings rounded as in noquasa. Fringes not chequered as in crawshayi, but narrower and black-brown mixed with grey-white.

Upperside dark fuscous-brown without markings except a small rounded black anal spot in 2.

Underside of fore wing pale ochreous-brown. A faint grey spot in middle of cell, a spot closing the cell edged with grey, a faint marginal line interrupted by the veins. Hind wing with white ground-colour and sharply defined dark-brown markings. Basal area covered with grey hair. A basal costal spot, one below it in the cell, and another below this in 1b; a spot near middle of costa, touching cell; a large irregular spot in lower part of cell and almost touching the spot in 1b; a more or less distinctly defined patch from vein 2 to inner margin; a postdiscal band of nine spots all touching, the one in 4 projecting more distad than the others, the one in 2 more proximal than the others; three submarginal < shaped marks in 4-6, adjacent to which are three marginal spots; a rounded black marginal spot in 2, ringed with orange and more broadly so with brown; next to this last spot a

large brown one in 3; a smaller anal spot in 1c; a discocellular spot with a grey centre line.

Length of fore wing: 12 mm.

Habitat.—Kisaba Forest, E. Lake Kivu, 2200 m., September, 1919, 7 $\,$ 3 $\,$, T. A. Barns.

HESPERIIDAE.

81. Sarangesa pandaensis sp. nov. (pl. XVI, fig. 97).

Allied to maxima Neave.

3. Upperside black, thickly irrorated with grey-brown, and bearing spots of this colour. Wings covered with short grey hairs. Fore wing with a white cell-spot and a series of 5 postdiscal white spots in 1b, 2, 3, 6, 8. A faint grey-brown oblique discal band from costa to base. A more strongly marked postdiscal band, projecting distad in 4 and 5. A submarginal series of 8 grey-brown spots, the third and fourth from the apex almost touching the outer spots of the postdiscal band. A grey marginal line. Hind wing with grey-brown bands of spots; a subbasal of 3 spots, a discal of 4-5 spots, a postdiscal of 6 spots, a submarginal series of 7 spots, a marginal grey line.

Underside of fore wing with black ground-colour. Some orange-yellow scaling in cell and along costa, and in basal halves of cellules 4 and 5. A series of 9 orange submarginal spots placed as on upper-side. Distal area between submarginal spots and a thin black ante-marginal line dusted with orange; a grey marginal line twice the breadth of the black one before it. A white spot in upper angle of cell, and a subcostal one above it. A postdiscal series of 5 white spots as above, the one in 3 the smaller. Area from vein 2 to the inner margin dark grey, excepting where the distal orange invades cellules 1b. and 1c. A black spot from just before base of vein 2, and another below it; a grey stripe runs from the upper spot to the base, and is formed of closely appressed hair and raised scales.

Hind wing with black-brown ground-colour and bands of orange-yellow spots placed as above, the interspaces being thickly dusted with orange, less so in the outer costal area. Subbasal spots 3, the one in 7 larger; discal spots 6, the one in 4-5 quadrate, the one in 3 longer than the others; postdiscal spots 5, the one in 4-5 farther from the discal spots than are the others; marginal spots 6.

Fringes black-brown chequered with grey.

Antennae black ringed with white, base of club white. Palpi black

above, grey-white below; head black, a grey line between the antennae. Thorax and abdomen black above, dusted with grey, ochreous below, abdomen with ventro-lateral orange stripe. Legs black, marked with grey-white, and with yellowish hair.

Length of fore wing: 20 mm.

Habitat.—Panda River, Lufira Valley, May, 1919, two & &.

82. Celaenorrhinus mozeeki kivuensis sp. nov.

A smaller form with broken subapical band.

3. Upperside of fore wing with spots only faintly tinged with brown. Subapical band with only the 3 anterior spots and a streak on vein 5 present. Hind wing with smaller discal spot, a dot in the cell, and indistinct brown submarginal dots. Fringes chequered with brown at ends of veins.

Underside as above.

Length of fore wing: 16 mm.; in the smallest mozeeki examined 19 mm.

Habitat.—Niragongo Forest, N.E. Kivu, October, 1919, one $\mathfrak z$, T. A. Barns.

- 83. Ceratrichia flava semlikensis sub. sp. nov. (pl. XVI, figs. 98, 99 $\mathfrak z$, 100 $\mathfrak P$).
- 3. Upperside of fore wing with black apical area reaching base of cellule 3, costa more or less scaled with black, not wholly yellow.

Underside of fore wing with broader black distal area anteriorly reaching base of vein 3.

9 Upperside black-brown. Fore wing with 3 apical dots. Hind wing with pale yellow posterior area, leaving a broad costal and distal margin. A dark submedian streak.

Underside of fore wing black-brown, costa striped with yellow, some yellowish scaling at apex, a white dot in 6, one in 5 and one in 8 placed near margin. Inner margin grey-white. Hind wing paler yellow than in 3 but with similar markings. Some blackish scaling along costa and outer margin.

This \mathfrak{P} has not been compared with the \mathfrak{P} of flava Hew., as we are uncertain what this is. There are four or five forms of \mathfrak{P} in the Joicey collection, some being phocion Fbr. and others certainly flava, but we are unable to determine these with any certainty at present.

The $\mathfrak P$ here described resembles a form from the Cameroons (like the $\mathfrak P$ of wollastoni Heron above) on the underside of the hind wing, but on the upperside it resembles another Cameroons form similar to phocion above.

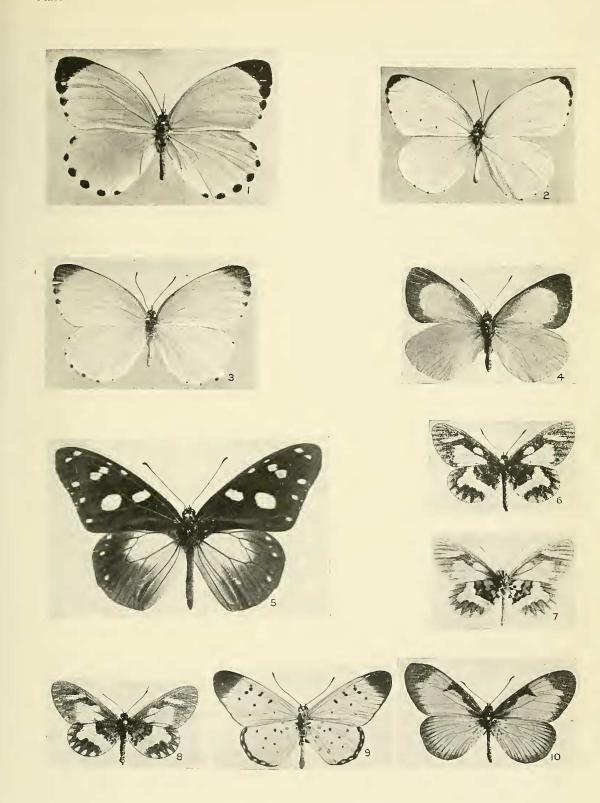
Habitat.—Lower Butahu River, Semliki Valley, December, 1919, three 3 3 (type); Lesse, Ituri Forest, January, 1920, one 3; Butahu River, under Ruwenzori, S. Semliki Valley, December, 1919, one 3; W. slopes Ruwenzori 2,200 m., December, 1919, one \Im .

Found in dense forest.

EXPLANATION OF PLATES IX—XVI.

PLATE IX.

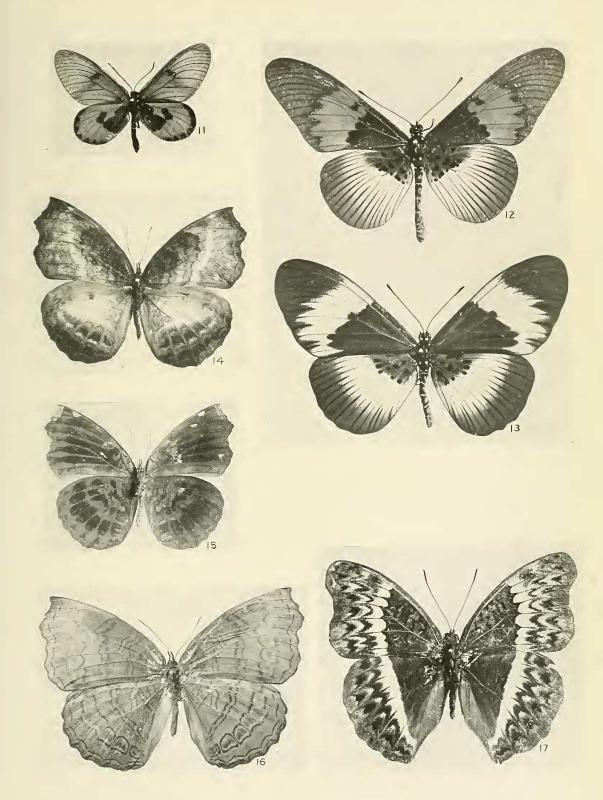
- Fig. 1. Mylothris interposita 3.
 - 2. , latimargo 3.
 - 3. ,, ,, ,,
 - 4. ,, $ruandana \ ?$.
 - 5. Amauris egialea similis 3.
 - 6. Acraea bettiana 3.
 - 7. ,, ,, 3 under.
 - 8. ,, ,, ,,
 - 9. ,, leucopyga latiapicalis &.
 - 10. ,, disjuncta f. alciopoides 3.



NEW AFRICAN RHOPALOCERA.

PLATE X.

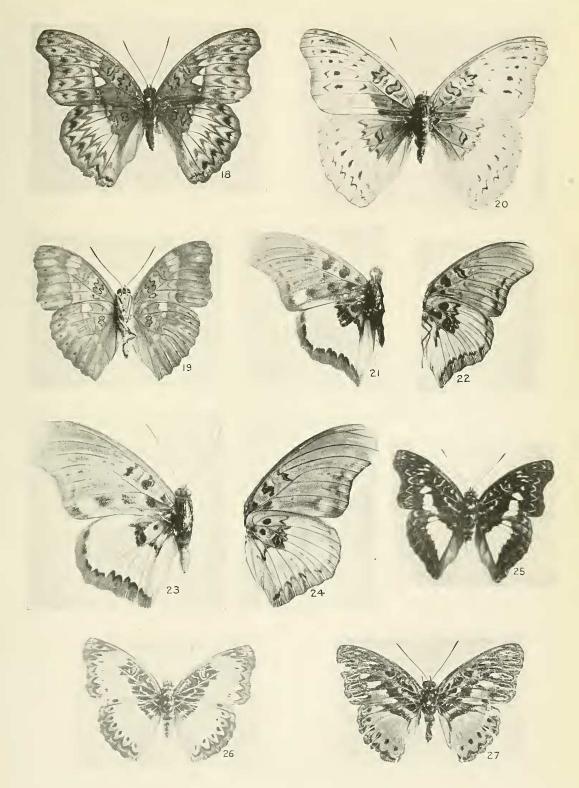
11.	Acraea	eltringham	ii ð.		
12.	Planem	a macaria	hemileuca	Jord.	8.
1 3.	,,	,,	,,		♀.
14.	Ergolis	albifascia	3.		
15.	,,	,,	♂ under.		
16.	,,	personata	3.		
17	Camoth	o a hammini	a f inhant	ani Bu	.41



NEW AFRICAN RHOPALOCERA.

PLATE XI.

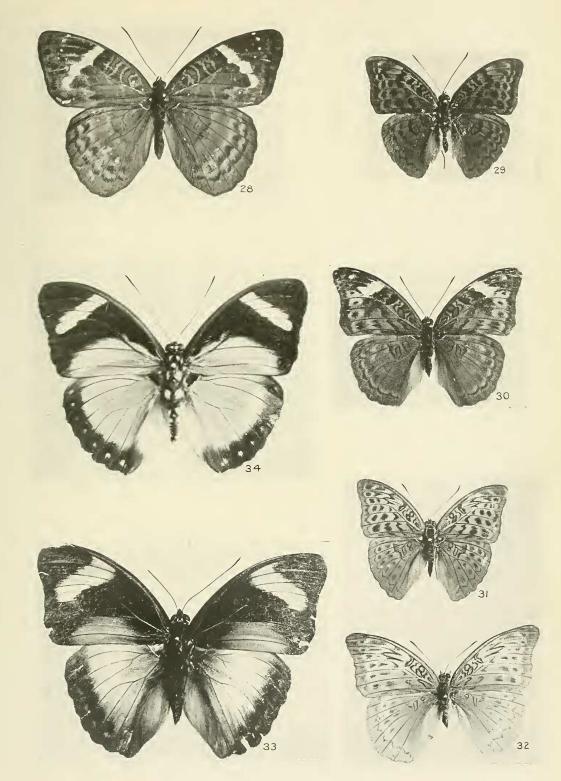
18,	Cymothoe er	s Auriv.	♀.	
19.	,, re	ginae-eliz	abethae Ho	oll. 3 under.
20.	Euryphura p	lautilla	♀ f. albima	rgo.
21.	,, 1	or phyrio	n congoensi	s 3.
22.	,,	,,	,,	♂ under.
23.	,,	,,	,,	우.
24.	,,	,,	,,	♀ under.
25.	Euptera hiri	ındo lufir	ensis 3.	
26.	,,	,, ,	우.	
27.	,, sem	irufa ?.		



NEW AFRICAN RHOPALOCERA.

PLATE XII.

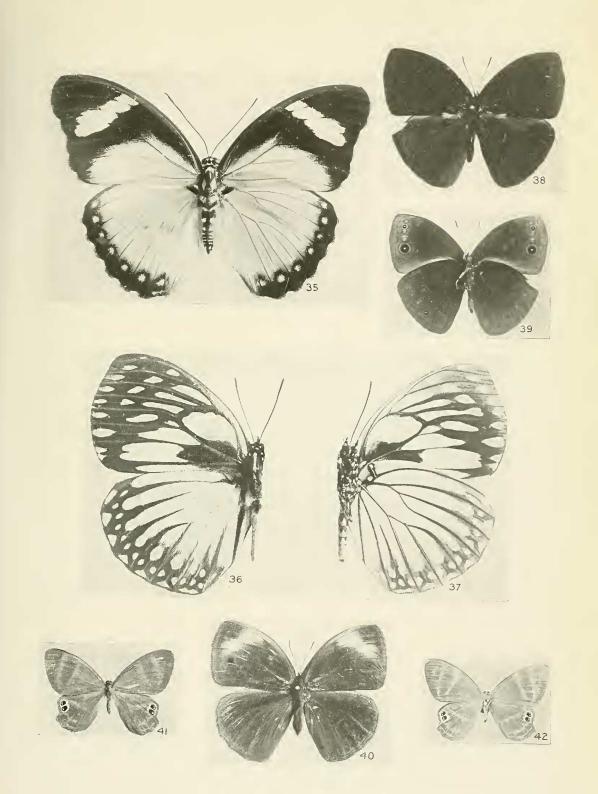
28.	Diestogyna	umbrina Aı	ıriv. ♀.
29.	Euryphene		
30.	,,	,,	♀.
31.	,,	brunnescens	3 8.
32.	,,	,,	♀.
33.	Euphaedra	ceres f. pho.	$sphor \ \it 3$.
34		alone nignal	_



NEW AFRICAN RHOPALOCERA.

PLATE XIII.

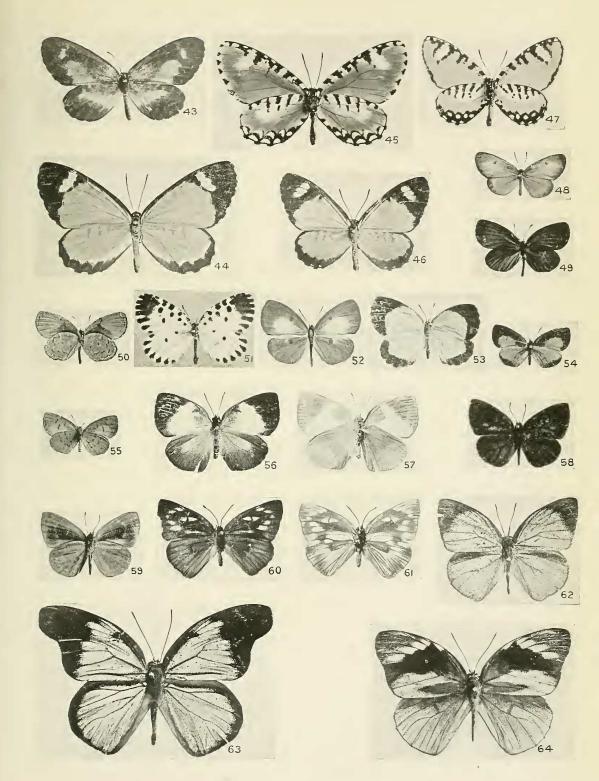
35.	Euphaedre	a eleus ni	grobasali	<i>s</i> ♀.
36.				
37.	,,	,,	,,	₽.
38.	My cales is	persimilis	8 8.	
39.	,,	,,	♂ unde	r.
1 0.	,,	1,	♀.	
41.	Abisara ba	ırnsi ♀.		
12		0 1	ındor	



NEW AFRICAN RHOPALOCERA.

PLATE XIV.

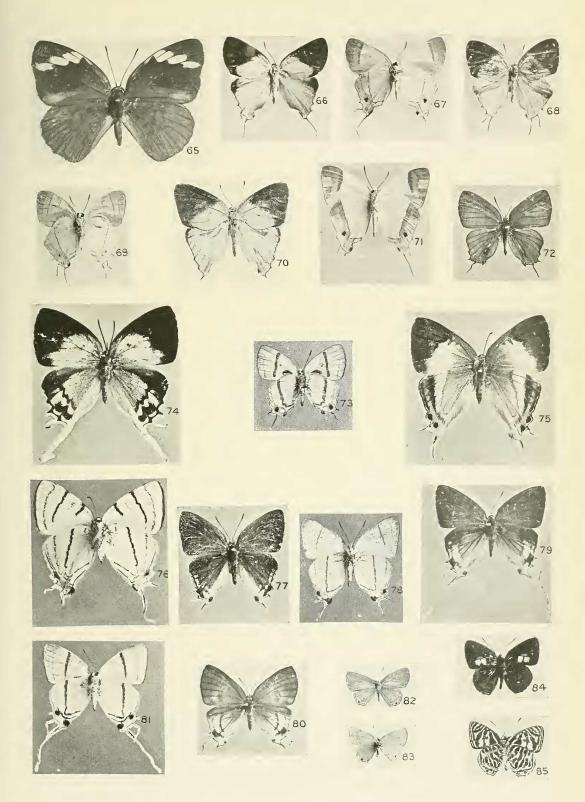
43.	Telipna angustifascia ♀.
44.	" $plagiata$ \circ .
45.	" " y under.
46.	$,, hollandi \ \emph{3} \ .$
47.	,, ,, 3 under.
48.	,, $subhyalina \ ?$.
49.	Pseuderesia neavei 3.
50.	,, ,, & under.
51.	Pentila auga congoensis 3.
52.	Liptena ilma lathyi 3.
53.	Citrinophila terias \circ .
54.	Eresina toroensis \circ .
55.	,, ,, ? under.
56.	Epitola marginata Kirby ?.
57.	y, ,, \$\pi\$ under.
58.	,, viridana 3.
59.	,, ,, & under.
60.	$,,$ ammon \circ .
61.	,, ,, ♀ under.
62.	$,,$ iturina δ .
63.	,, urania tanganikensis 3.
64.	Herritsonia hoisdunali congonnie 1



NEW AFRICAN RHOPALOCERA.

PLATE XV.

65.	Hewitsonia kirbyi ♀ f. intermedia.
66.	Epamera barnsi 3.
67.	,, ,, ♂ under.
68.	,, $frater \ \delta$.
69.	" " " a under.
70.	,, $fuscomarginata$ 3.
71.	" ,, ♂ under.
72.	Hypokopelates canescens 3.
73.	" " d under.
74.	Tanuetheira prometheus congoensis \circ .
75.	Hypolycaena buxtoni puella ♀.
76.	,, ,, ,, ♀ under.
77.	,, $japhusa$ Riley δ .
78.	,, ,, ∂ under.
79.	Zeltus antifaunus latimacula 3.
80.	,, ,, ,, ,,
81.	,, ,, ,, ∂ under
82.	Cupidesthes minor \circ .
83.	,, ,, ♀ under.
84.	$Ly caenes the sbipuncta \ \mathcal{J}$.
85.	dunder



NEW AFRICAN RHOPALOCERA.

PLATE XVI.

86.	Lycaenesthes bipunc	$ta \circ .$	
87.	,, discime	acula 3.	
88.	,,	,, <i>ð</i>	under.
89.	$Triclema\ ituriensis$	3.	
90.	",	3 under	
91.	Catochrysops celaeus	s kivuens	is 3.
92.	",	,,	♀.
93.	,, ,,	11	ð under.
94.	,, kisaba	3.	
95.	"	3 unde	r.
96.	Oboronia rutshurens	is ♀.	
97.	Sarangesa pandaens	is 3.	
98.	Ceratrichia flava ser	nlikensis	♂.
99.	",	,,	♂ under.
100.			ያ .





























